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DEFINITION.

THE
LOGIC
OF
DEFINITION:
EXPLAINED AND APPLIED.

BY
WILLIAM L. DAVIDSON, M.A.,
MINISTER OF BOURGTIE.

LONDON:
LONGMANS, GREEN, & CO.

1885.

"The improvements which language receives in consequence of the progress of knowledge, consisting rather in a more precise distinction and classification of the various meanings of words, than in a reduction of these meanings in point of number, the task of mental induction and interpretation may be rendered more easy and unerring; but the necessity of this task can never be superseded, till every word which we employ shall be as fixed and invariable in its signification as an algebraical character, or as the name of a geometrical figure."

—*Dugald Stewart.*

"Strange that when the greatest embarrassment felt by all who have any considerable number of thoughts to express, is to find a sufficient variety of precise words fitted to express them, there should be no practice to which even scientific thinkers are more addicted than that of taking valuable words to express ideas which are sufficiently expressed by other words already appropriated to them."—*J. S. Mill.*

P R E F A C E.

THE importance of logical Definition, as a philosophical discipline, is acknowledged on all hands. Equally unquestioned is its value both as a means of detecting error and as a branch of logical Method. There is, also, a pretty general agreement as to the need for a detailed exposition of its doctrines, with a pointed reference to practice: indeed, the practical bearings of the subject have been sadly neglected.

Guided by these facts, I have endeavoured in the present work—*first*, to formulate and expound the principles of Definition, and, *secondly*, to apply them. The spheres of application are mainly these:—The Dictionary, the School-book, Philosophical Vocabulary, Philosophical Questions, and Taxological Biology; in each of which, I have not only dwelt on current dangers and defects, but have, further, suggested modes of improvement,—embodying my suggestions in definite plans sufficiently worked out to show their character and bearings. The wants of the Student of philosophy and of the Teacher have been constantly kept in view, and I have aspired

also to being helpful to Dictionary-compilers and to writers of Educational Manuals. This will explain much of the form in which the work is cast,—more especially, the prominence assigned to leading Philosophical terms and to the handling of Separation of Questions.

Hearty acknowledgments are due to Professor Bain, for much valuable counsel. I am also indebted to the Editor of *Mind*, who has generously allowed me the freest use of my articles in that magazine; and to Professor James W. H. Trail, of Aberdeen, in whose journal (*The Scottish Naturalist*) the chapter on Biological Definition substantially appeared.

THE MANSE, BOURTIE,
April, 1885.

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THE LOGIC OF DEFINITION.

CHAPTER I.

WORDS AND THEIR MEANINGS.

IT is admitted on all hands that language is the main instrument of thought, and that words are the signs of ideas ; but there is not an equally general admission of the necessity of having this instrument of thought as perfect as possible, and the signs of ideas exactly suited to their function ; or, if the necessity is generally admitted, the majority of us fail miserably in the attempt to make our practice tally with our conviction. We feel, with the great lexicographer, that words are only the daughters of earth, while things are the sons of heaven ; but we do not feel as *he* did the vast importance of these symbols, and the difficulties and subtlety involved in the manipulating of them : and though, in our better moods, we may “wish that the instrument might be less apt to decay, and that signs might be permanent, like the things which they denote,” we are not strenuous in the effort to give our wish a practical embodiment and to further the perfection we profess to desire. A large number of the controversies and disputes that rage, and

that have raged, in philosophy are notoriously wars of words. They have arisen either from the indifference and carelessness of thinkers—their reprehensible failure to clothe their thoughts in the most accurate verbal expression within reach—or from their inability to find forms suitable to indicate with precision the things that they designed to signify. The second of these causes is, to all appearance, inherent in the instrument itself—language can never perhaps be rendered absolutely perfect; but the first cause is both remediable and without excuse. Controversies from the careless employment of terms ought to be impossible; and they can be prevented mainly through the agency of Definition. Well-defined words, clearly understood and intelligently expressed meanings, are a sort of panacea for the thinker; and, in proportion as we approach the ideal here or recede from it, we may expect accuracy and progress in thought or deterioration and confusion.

It may be well, then, at the opening of this work on Definition, to dwell for a little on that characteristic of words which produces the difficulty and complication already adverted to—I mean, their tendency to change their meanings: and clearness for our future handling will be obtained if we note the laws that this tendency conforms to, and the limitations that ought to be imposed upon it.

The logical ideal of the relation between words and thoughts is, of course, that every thought should have its own name, and every name should have its own meaning. If this high doctrine could be rigorously carried out, short

work would soon be made of the vast majority of outstanding philosophical contests, and the grounds of disputation would be narrowed to a very manageable compass. But, as language is (almost without a metaphor) a living thing, as it grows with the advance of the ages and does not continue at one stay, this logical ideal is unattainable ; and, even if it were attained to-day, there is no security that it would not be overturned to-morrow. The influences at work are too many and too diverse, the individuals using language are too numerous and too differently constituted, to admit of anything like absolute uniformity in the employment and signification of terms. The pressure of practical necessity, ignorance, obstinacy, indolence, caprice, no less than motives of a higher kind, all enter as factors in the case ; and even if we could suppose the world submitting to have its vocabulary fixed by a committee of experts, the different intellectual characters, not to mention the different proclivities and idiosyncrasies of these experts themselves, would prevent the attainment of unanimity. We take it, then, as inevitable that one word will (as a rule) be made to stand for more than one idea, or that one name will usually have several significations attached to it ; and, instead of wasting time in condemning the inevitable, we shall be better employed if we try to ascertain what laws ought to regulate this process so as to render it philosophically defensible.

In pursuing our investigation, three distinct questions arise, the consideration of which will carry us as far as we here require to go ; *viz.*,—

1. On what principles are the meanings of words changed ?
2. When is a change of meaning legitimate ; or (put otherwise), how are we to distinguish between the proper and the abusive use of words ?
3. When is the introduction of a new term into the language philosophically imperative ?

1. As to the first of these questions, the answer is obvious and easy. There are two principles (as J. S. Mill long ago pointed out, in his *System of Logic*) that words obey, in their change from one signification to another,—one unifying or philosophical, the other critical and logical. First, starting from a particular point, they may have their application extended—*i.e.*, instead of covering a certain determinate area, which we shall suppose known, they have their area augmented, so that things which did not formerly come within their sweep are now included in it ; or, secondly, they may have their area narrowed, so that things to which they were formerly applied are now shut out from their embrace. Both these processes are constantly at work, and the results are everywhere apparent.

As an example of *extension*, we may take the case of Experience. Confined at one time to the individual, it designated simply what came within the range of his personal knowledge and observation : it was next extended so as to include knowledge derived from the evidence and testimony of others (the experience of one's fellows, as recorded directly by themselves, or indirectly in history, &c.): until at last it has been widened so as to embrace ancestral experience transmitted (as a result) by heredity—

the aptitudes and other peculiarities inherited from our forefathers. So, Language is a word that in strictness indicates the communication of thought through speech ; but, in its widest import, it signifies *any* system of signs for the communication of thought—whether spoken or written, whether through the expression of the face or the movements of the hands or the gestures of the body. Again, the word Law has undergone expansion under the pressure of physical research. Regularity, uniformity, constancy of occurrence is a much wider idea than bare authoritative prescription enforcing obedience under the threat of punishment—which is the simple juridical conception. And, if we take the word Punishment itself, we shall find that it has advanced from merely connoting the infliction of *bodily* pain to signify pain of other and more refined sorts—such as mental disquietude arising from the consciousness of having fallen in our friends' estimation, shame, the feeling of being disgraced, and so forth.

Examples of a *narrowed* meaning, on the other hand, are equally frequent. Take the word Cant. This, in Johnson's time, and as used by Johnson himself, signified the jargon of any class or profession whatsoever—very much like our modern words "shop" and "slang": with us, it is restricted to one kind of jargon—the *religious*, and, carrying along with it the ideas of hypocrisy and meanness, is employed as a term of reprehension and contempt. In like manner, Reflection properly signifies a species of thought or meditation ; but it is frequently used (especially in the plural) to convey the notion of *adverse* reflection, hostile criticism, censure or condemnation—as when we say "I cast no reflections on

anybody," "no reflections are intended on your motives". Proclaim, too, has a double meaning: the general one of "declaring aloud or publicly," and the more special one of "denouncing or outlawing"—this latter being but a species of the former. Virtue, again, has three well-marked significations. In the widest sense, it is a synonym for excellence or power—as seen in such an expression as "the virtue of a drug": it is next restricted to one species of excellence, namely, *moral* excellence: and this last is still further limited when it is used as the equivalent of *chastity*,—as when we speak of "a woman's virtue" or "the virtue of a particular age or country". Science, in like fashion, has undergone a similar contraction. Used originally as a synonym for knowledge, it was first restricted to *reasoned* knowledge, to truth in its generalized and systematized form; and now-a-days, when the word stands alone without a qualifying epithet, it is usually understood to signify *physical* science. There is also a restricted sense in which it is opposed to Art, and another in which it forms the antithesis of Philosophy. Once more: the full meaning of Mind is "feeling *plus* intellect *plus* will"; but frequently, in current usage, one of these properties alone is indicated,—as when we speak of "a great mind," meaning thereby a great intellect, or when we say of such and such a one "he has a mind of his own," by which we point to the volitional characteristic of will or determination. It is to be observed, however, that we never specialize it on the side of feeling. No display of passion or emotion, however conspicuous, would be spoken of as a manifestation of *mind*.

A special form of narrowing is when distinct meanings

are given to a word expressing, not the essence of the thing denoted, but some accident attaching to it. Thus, Prophet means strictly a "revealer," "one who comes with a divine message to men"; but, inasmuch as the prophets have as a rule been also foretellers, this secondary and accidental circumstance has given rise to the meaning "foreteller". So, Martyr is properly a "witness," "one who publicly bears testimony to the truth"; but, inasmuch as the fate of the early confessors was opposition on the part of men, torture, and (not unfrequently) death,—the word has come to be applied solely to confessors who have sealed their testimony with their blood. Again, Sinister is a word properly applicable to the hand, and the *left* hand is the sinister hand; but, from the circumstance that treacherous deeds have frequently been done by the left hand, and from the further circumstance that in ancient augury the inauspicious or unlucky lay on the left,—sinister has come to mean "underhanded," "corrupt," "inauspicious". In like manner, Dexterous, which means properly "pertaining to the right hand," has, from the obvious characteristic of that hand, come to signify "skilful, expert, adroit"; just as the more general word Handy is the name for "skilful" or "ingenious".

Two other processes may fitly be described as species of narrowing:—first, when a word is raised from a lower level to a higher,—*i.e.*, when it is elevated or ennobled in its meaning; secondly, when a word is brought down from a higher level to a lower,—*i.e.*, when its meaning has deteriorated or become degraded, when base, disparaging or offensive associations are attached to it. The great examples

of the first are to be found in the sphere of distinctively Christian terms,—such as love, charity, humility. Instances of the second are—boor, gossip, impertinent, knave, lewd, libertine, pagan, villain.

All synonymy, too, is of the nature of specialization. It is the marking off of things that differ simply by a shade ; and the full significance and import of it, we shall see later on.

Sometimes a word is found, when viewed in the light of history, to have gone through various stages of narrowing and extension ; so that, while at one particular date we have it employed in a very wide sense and at another in a more restricted application, at still another the balance is seen to have swung round and the more extended signification is now in the ascendant, again perhaps to be supplanted at no distant day by the narrower. A case in point is the term *Philosophy*. In broad outline (which is all that is here required) its history runs thus :—

Standing at first, perhaps, for “love of wisdom” or “appetite for knowledge,” *Philosophy* came at a very early date to signify what would now-a-days be understood by “general culture” or “liberal education”. It next assumed a more special and technical meaning. This it did, with the rise of the schools at Athens,—from the time of Plato downwards. *Philosophy* then was a distinct form of thought ; and *he* was the philosopher who devoted himself to some particular branch of learning—logic, dialectic, &c.,—and who made it his work to investigate the abstruse, and to set forth his thoughts and meditations in a system of his own. In the highest sense of all, he was the teacher of knowledge and the

founder of a school; and, while the modern word "professor" would partly express his function, "master" also is required to bring out his special relation to his pupils and disciples. The content of the term, however, varied with the particular school under consideration. With the Platonists, Metaphysics in the form of Ideology (or the doctrine of Ideas) was pre-eminently philosophy; with the Peripatetics, philosophy included the Theoretical and the Practical Sciences, but excluded Rhetoric and Logic. With the Stoics, it was "the study of wisdom," and Wisdom was defined as "the science of things human and divine,"—so that Ethics, Physics, and Logic alike came under the designation. But, however conceived, it had always a specialized signification, and stood for the higher exercise of Thought and Reason. When, shortly before the time of Cicero, the teaching of the Athenian Schools was introduced into the West of Europe, the current signification of the word Philosophy was introduced along with it. The Epicurean, the Academic, the Peripatetic, and the Stoic at Rome each went by the name of philosophy, and that too (in Cicero's time and later) was a philosophy which tried to combine the teaching of them all, or to amalgamate what was best in every one of them,—*viz.*, Eclecticism. Later on, in the first and second centuries after Christ, when conduct became the primary consideration, and Virtue was regarded as the sum of right living, Philosophy was narrowed down to Ethics. To live righteously was now the same thing as to be a philosopher, and the sole function of philosophy was to act as a medicine of the soul. Later still, in the third and fourth centuries of the Christian era, when Christianity had gained a distinct

hold on Western thought, the philosopher became synonymous with the theologian, and *he* philosophized best who exercised himself most with the Christian mysteries and Christian doctrines. But, by the fifth century A.D., the word had in great measure regained its non-christian acceptation, and from the time of Boëthius (say, in the beginning of the sixth century), it was taken as covering three distinct branches of Science,—*viz.*, Physics, Mathematics (the *quatuor matheseos disciplinae*,—Arithmetic, Geometry, Music and Astronomy) and Metaphysics (including Psychology). And this same threefold division is found running through mediæval times, and was in full force in some of our Universities (*e.g.*, the Scottish) long after the Reformation, even down to the eighteenth century. Now, under this restricted usage, not only were Ethics and Theology excluded from Philosophy, but Logic and Rhetoric as well. The position of Logic, according to Boëthius, was precisely that which Aristotle (ages before) had accorded it,—that of an organon or instrument (*ferramentum et quodammodo supellex*, “instrument and kind of outfit”), necessary for philosophy and science alike, but no just province of either; and when Albertus Magnus (the master of Aquinas), in the thirteenth century, puts in a word for Logic as a distinct branch of speculative philosophy, he does so in a rather tentative and hesitating manner, and his innovation was not readily adopted by his immediate successors. *There* stood Logic with its hand-maid Rhetoric, on the one side, and, on the other, Philosophy; while, outside of both (from the time that the *Ethical* writings of Aristotle became known to the West, in the twelfth and thirteenth centuries) stood Ethics.

In modern times, on the other hand, and in our own country, Ethics and Logic are both affiliated with Philosophy*; and the contrast in Britain at the present day is between Philosophy and Science. In Germany, and among transcendental philosophers elsewhere, the contrast is not between philosophy and science, but between philosophy and the various branches of *mental* science, more particularly Psychology. Philosophy is now the unity of knowledge, dealing with Being and Not-being, whereas Psychology is simply confined to the analysis and classification of psychical phenomena; and, inasmuch as the method of the one is subjective and inductive, while that of the other is eminently deductive, objective, and metaphysical, the two are demarcated *toto caelo*, and have, of consequence, little in common as to result.

A similar story might be told of the word Philology; which, standing originally for "the love of conversation," has passed through the various stages of—love of philosophical discourse, love of literature, encyclopædic knowledge, study of the ancient languages and history, study of language in general, etymology as a province of Grammar. But why multiply examples? From those already adduced, the nature of the two opposite processes will be sufficiently apparent, and nothing further is needed to show their tendency and bearing. Both are unceasingly in operation, and both give rise to serious complications, rendering the clear and unimpeachable expression of thought difficult

* Although not very long ago the *physicist* was pre-eminently the philosopher, and "natural philosophy" is still a synonym for physics amongst us.

and (in some cases) almost impossible. The drawbacks are obvious and numerous. When a word is used in a very wide sense, we run the risk of not conveying by it the fulness of the meaning we intend. What is signified may be distinct enough and intelligible enough, but it represents *less* than we desire. Our language is feeble and we fall short of our purpose. When, on the other hand, our meaning is exceedingly restricted, the term we employ (let us suppose it to be the most appropriate one available) is not accustomed to being thus pinned down, and so, not only do we ourselves feel a certain awkwardness in the use of it, we can never be certain that we have rendered comprehensible to others the exact shade of meaning that is present to our own perception. Although the widening and the narrowing processes are both at our command, and although we have them constantly with us, we yet cannot ensure that our use of either will make us absolutely intelligible to others, or even that others will approve of our particular application of them. Moreover, when we tamper with established usage, a twofold duty becomes incumbent on us,—neither part of which is easy to discharge. It becomes necessary, first, to guard strictly against the intrusion of the old and (now) discarded connotation ; and, secondly, to provide a term for the old and displaced signification, so that it may not remain unrepresented. Obviously, we are landed in perplexity. How, then, shall we proceed? Are there no considerations that can help us? no limits to be placed to our liberty of altering the meanings of words either this way or that ; so that our audience may have some security that we do not run riot in our innovations, and we

ourselves shall be able to retain (in at least an appreciable degree) the intelligent understanding of our audience? There are : and a consideration of these will afford the answer to the second of our questions above put,—*viz.* :—When is a change of meaning lawful? By what criteria are we to distinguish between legitimate and abusive significations?

2. An abusive signification is found, when examined, to be one for which there is no proper justification ; one that originates either in caprice—in the user's personal whim or fancy,—or in some cause that is palpably insufficient or unreasonable. Now, a term is abusively employed—(1) when it is used in a signification that is perfectly well expressed by another term already in existence, (2) when the use of it in a particular connexion is out of all harmony with its other well-recognized uses. Put otherwise, it is condemned because it is unnecessary, or it is condemned because it overturns established connotation.

A glance at each of these may not be inappropriate.

(1.) Language is a living process, and to some extent keeps pace with the life and growth of thought. As the one advances, so does the other ; and subtle intellectual discriminations are ever pressing for a suitable embodiment in speech. Hence the rise of synonyms in a language, and hence their meaning and their justification. A tongue devoid of synonyms would bespeak a people intellectually poor, and the mental activity of a race may be in a manner estimated by their efforts to express in words the various shades of

meaning that the mind perceives. But synonyms are one thing, and the employment of different words expressive of the same object is quite another. The one means richness, the other poverty; and, while we commend the first, we reject (with certain qualifications) the second.

Thus, take the word Nature; and among the multitude of significations attaching to this term, it will be found that, while some are intelligible enough and legitimate, there are others which are mere abusive applications, quite unnecessary and so to be avoided. Three senses stand prominently forward and are defensible:—(1) Nature stands for the outward universe *plus* the inward constitution of man; (2) it stands for the outward universe, as distinct from and even as opposed to, the inward constitution of man; (3) it stands for man's original constitution, in contradistinction to what he becomes through social intercourse, educative training, and the like. The first of these is the widest and most comprehensive of the three, but at the same time that which leads most easily to paralogism or fallacy in reasoning. Everything, in this sense, is "natural" which can be shown to be the inevitable and necessary result of the interaction of object and environment. Given man and given his surroundings, then that is natural which springs inevitably or uniformly from the union: as when it is said, "it is natural to early [primitive] man to hypostatize the various powers of [outward] nature,"—which just means that, primitive man being what he is, and the powers and forces of outward nature being what they are, polytheism of a particular kind is the sure result. We have examples of the second meaning when we oppose the

Natural to the Spiritual, or when we speak of Anaxagoras as having written a book on Nature, or when the poet calls Newton "priest of Nature," or when we say it was the characteristic of pre-Socratic philosophers that they restricted their speculations to Nature, or when we talk of Laws of Nature, or of the argument that "looks from Nature up to Nature's God," or when we read that the province of Philosophy is Mind and that of Physics is Nature. It is the third meaning, again, that is represented in the Stoical dictum "*vivere convenienter naturæ*," or in Butler's conception of human nature as a system or graduated hierarchy with Conscience at the top and Appetite at the bottom, or in the doctrine of "the natural rights of man," or Hobbes's theory of "man in a state of nature," or in the expression Light of Nature. This third meaning is very much the famous Greek antithesis of *φύσις* and *νόμος*, *nature* and *convention*. It supposes that such and such belongs to man *as* man, and that this so much may be determined, and, when determined, claims our unquestioning regard. It is thus frequently used as synonymous with "innate".

These senses are all well marked and intelligible. But now take the following, and we shall see that they are both unnecessary and misleading; every one of them can be thoroughly well expressed by other terms specially appropriated to the purpose. First, Nature is opposed to History; in which case it stands for the present experience of fact (external) as distinguished from past experiences related or recorded. Next, it is put for the quality or essence of a thing, its idea or notion; as when we say "The nature of justice is such and such". It further stands for the

Author of Nature—the *natura naturans* of Spinoza. And it is used also for temperament and for temper; as when we speak of a man of a gentle nature, or of one whose nature has become soured through misfortune or disappointments.

Now, looking at all these disparate uses, I do not hesitate to say that applications of this sort are unwarranted and abusive. There is nothing in reason to justify them; and, while they serve no useful end which may not be achieved equally well without them, they lead to complications and obscurity that would not otherwise exist. The proper English for the first (Nature as opposed to History) is "present experience" or "present fact". The second is best expressed by such terms as "essence," "quality," or "meaning". The correct designation for the world's Author is "Maker" or "Creator". And Temperament and Temper are each of them sufficiently vivid words to express their respective meaning without the help of any substitute or equivalent.

A parallel example is the stock instance of Inconceivability, as applied in philosophy to the criterion of truth. In its meaning of "unbelievability" it should never have been used at all, for *conception* is never a pure synonym for *belief*; and when we mean to indicate that a thing is unbelievable, why not say so by this perfectly intelligible word "unbelievable," without having recourse to an ambiguous term? It may even be doubted whether inconceivable ought to be employed in the sense of "unimaginable". Conception and Imagination are by no means identical in psychology; for, while the one deals with the concept or notion (the general

or universal), the other is concerned with the mental image or picture (the individual representation), so that the imaginable is properly the picturable, and the unimaginable the impossibility of being mentally portrayed or painted. The matter is still further complicated when we remember that the word imaginable is itself, in good English, sometimes used as convertible with "believable,"—as when Pearson, in his argument for the Resurrection, exclaims, "Is it imaginable that God should thus restore all things to man, and not restore man to himself?" Surely, for exactness of thought, there must needs be exactness of expression, and there are few greater hindrances to sound reasoning than this form of the abusive use of language.

(2.) The other form I referred to is also noteworthy. In turning a word from its original or well-recognized significations, care should be taken that the change shall be such as not to interfere with the general line of ideas embodied in these significations.

On examination it will be found that usually a word has one central conception ; and the legitimate uses of that word are those that proceed naturally from this conception,—all others being illegitimate and disturbing. Yet infringements of this principle are common, and the result deplorable. Thus, the mathematical meaning of the substantive Function is out of harmony with the other and proper meanings of that word. It signifies *concomitant variation*, and that in itself is a perfectly comprehensible idea ; but what it has in common with "duty," "office," "business" (the correct signification of Function) is hard indeed to determine.

The physiological application is quite different. Function as the correlate of "structure" is manifestly affiliated to function as one's "duty," "office," "business"; and, being on the line of the main idea, cannot be reasonably objected to. Again, the term Sentiment in classical English signifies "opinion"; but philosophers have used it as a synonym for Emotion: in other words, they have transferred it from the province of Intellect to the province of Feeling. Passion, in like manner, denotes both pure passivity and the highest form of activity: on the one hand, it signifies susceptibility to impression, and, on the other hand, the ruling guiding principle of conduct, the motive-spring of action. Again, Consciousness and Unconsciousness are two entirely different things (the one being the exact opposite of the other), and to subsume both under the same name Consciousness, and to speak of an "unconscious consciousness" (as is the fashion at present), is worse than unmeaning. So, the word God is meaningless unless it denote a *person*; and Mr. Matthew Arnold's brilliant literary attempt to express it by "the Eternal not-ourselves (the *impersonal* Power) that makes for righteousness," is in reality to transgress all known principles of language. Similarly with Matter. The leading notion here is obvious enough, and all such senses as "extended substance," "body," "materials," "subject of discourse or of consideration" cluster naturally around it. But what shall we say of such significations as "business or affair," "cause of disturbance, of excitement, or of ailment," "distance in space or duration in time"? They are evidently incongruous; and although, being firmly established, it may

not be possible to get rid of them, they are philosophically indefensible.

When, then, is it legitimate to make a new application of a word, either by widening or by narrowing its connotation (for any change, as we have seen, must lie in one of these directions or the other)? Answer:—When a fresh analysis, or further experience, has shown the old meaning to be inadequate. But, even then, our change is authorized only when we pay a strict regard to the former connotation of the term, and when there does not exist already any other term in the language suitable for expressing what we intend.

Meditation upon the meaning and bearings of this will show that the liberty of effecting a change is far greater in some spheres than in others. It is greatest of all, perhaps, in the Sciences, and, of these, in the Objective Sciences. The reason is obvious. Accuracy and exactness being the first desideratum in the Sciences, and the subject being for the most part left in the hand of specialists, a more consistent application of terms is demanded, and more rigorous definitions are required. Thus, the word *Fruit* bears in ordinary parlance a particular signification, and this is determined mostly by the common uses of everyday life. But when the botanist comes to deal with the reproductive parts of flowers, he finds that the *Fruit* of a plant includes more than is ordinarily understood by that name, while some things pass in common usage for fruits which are really not so. For example, the edible red pulpy part of the strawberry is not really its *fruit*, but a portion of the stalk—that portion of it on which the flower grows

(technically called the *receptacle*)—peculiarly and anomalously formed : and the Fig of our dinner-tables is, in like manner, the *receptacle* of the fig, and the so-called “ seeds ” are its blossoms. The botanist, therefore, must shape his meaning accordingly, and Fruit is to him the seed-vessel of a plant, and nothing more.

The word Individual, again, has a different sense in botany from what it has in any other science or in popular usage. The individual plant is not, like the individual animal (some of the lower organisms excepted) or the individual of ordinary speech, a single person or unit : it is, strictly speaking, a *colony* of units—a collection of individuals, each with the power of reproducing itself, and possessing the characteristics of the aggregate or assemblage.

So with the zoologist, the mineralogist, the chemist, &c. Each must ignore vulgar usage in so far as it is misleading, and deal with connotation as the exigencies of Science necessitate.

It is the same (but with a difference) when we reach the Subjective Sciences, or Sciences of Mind. Here, too, precision is required, and the licence of specialists must be accorded to philosophers. But, as others than specialists are here largely concerned, as the testimony of the plain man is absolutely indispensable, as it is necessary to get, if possible, at the common experiences of mankind, the end would be signally frustrated if philosophers were to speak in a language altogether “ununderstood” of the people. The thinker and the plain man, if they are to be mutually helpful, must so far be agreed, and the current words

expressive of mental states must not be lightly tampered with.*

How, then, is the mental philosopher to surmount this seeming disadvantage? The answer will be found in the consideration of the third question that I proposed at the beginning, *viz.* :—When is the introduction of a new term into the language philosophically imperative?

3. A new term is imperative :—(1) when there is a new thing to be expressed; (2) when, by the introduction of a new term, tedious circumlocution is avoided; (3) when, by adding to or tampering with the old, confusion is inevitable.

(1.) The first of these cases covers all new discoveries and inventions—whether in practical or in theoretical affairs, whether the reference be to a thing (outward or material object), or to a previously unexperienced situation, or to a mental phenomenon or state; and it holds equally of science, art, philosophy, common life, theology, literature, politics, and what not. Thus: until quite recently, there was no situation exactly identical with that which now goes by the name of Boycotting. When the situation arose, the name was spontaneously imposed, and it has already grown to be part of the language. So, the term Philistinism is of quite recent introduction, to express a recent

* The history of philosophy bears ample evidence to the confusion arising from the philosopher neglecting to reckon with the attitude and conceptions of the plain man. Need I recall such historical instances as Berkeley's treatment of "matter," or Hume's doctrine of "passion"? Utilitarians have often suffered from a similar indifference; and, perhaps, the same may be said of the Hegelians of the present day.

phase of an old enough fact; just as Vandalism, when first coined, designated a phase of character which up to that time had been unknown among the civilized. We are aware, also, of the new situations that have given origin to our leading political names Whig and Tory, Liberal and Conservative, Radical and Constitutionalist (some of these deliberately chosen by the parties bearing them); and words like Communism, Socialism, Nihilism, Fenianism have obtained currency from the modern development of republican tendencies. In like manner, new things produced the new names—telegram, cablegram, telephone, phonograph, bicycle, plutocracy, agnosticism, mesmerism, hypnotism, and a host of others.

In nearly allied objects, also, shades of difference have often to be carefully noted, and, when this is so, nothing less will serve than a distinct name for each shade of difference. The utmost importance attaches to this in some fields of inquiry,—especially (as we shall see later) in Mental philosophy; but, in every department of knowledge, it becomes of value sometimes, and requires to be attended to. Shapes, colours, sizes, for example, play a conspicuous part in plant-discrimination, and demand an elaborate botanical terminology for the just expression of them. So, the terminology of the zoologist must be elaborate, for the same reason. And the chemist, the mineralogist, the physiologist, the anatomist, and other scientists must pay regard to minute differences among the parts, organs, structures, processes, and substances with which they respectively deal, and must take care that these differences are duly fixed in an adequate vocabulary.

But our first imperative covers also the second form of the abusive application of words (already considered); *i.e.*, when incongruous meanings are designated by the same name. The sole cure here is separate names for the incongruous ideas,—as may be seen by a study of the examples above adduced.

There are also instances where a term contracts what may be called an adventitious meaning, and so becomes unsuitable for expressing its own proper signification: as Impertinent, which has long since ceased to designate the “irrelevant” or “not pertinent”; or Animosity, which is never now employed as the equivalent of “spiritedness”; or Insolent, which is now far other than the “unusual” or “unwonted”; or Imbecile, which is not now synonymous with “feeble” or “infirm”. In all such cases of deteriorated, degraded, or offensive connotation, the only remedy is to avoid the term in its original sense, and to find or coin or introduce another in its stead.

(2.) The second of the cases before us (*viz.*, that which refers to circumlocution) is also well marked. New words are indispensable when a thing (object or idea) has frequently to be referred to, while the terminology expressive of it already in use is cumbrous or periphrastic. Such was the case, for instance, with the terms Scientist, Emotive, Abiogenesis, and the like.

Previous to the present century, there was no great occasion for a word to express what formerly went by the designation “natural philosopher,” or “man of science”; but within the present generation, when science has come

so prominently forward and has grown to be a word in everybody's mouth, and when the scientific man has come to occupy a position almost unique, the need began to be felt for some single word to denominate the man of science by, and the word suggested for the purpose (and now generally accepted) is Scientist. In like manner, there is no more prominent term in psychology than Feeling; but it has the disadvantage of not possessing an adjective form (such as "feelingal"), and the want of an adjective appropriate to the substantive is attended with great inconvenience. Emotional, accordingly, has sometimes been employed for the purpose; but that is to put a specific term to a generic use, and so to court confusion; for "emotional" belongs of right to "emotion," and, as emotion is psychologically different from feeling, obscurity results from this ambiguous designation. A successful attempt has, therefore, been made to familiarize us with Emotive (formed after the analogy of "sensitive"); and thus has the gap been effectually supplied. So, with the word Abiogenesis in natural science. It is Professor Huxley's felicitous equivalent of "spontaneous generation"; and, standing as the opposite of Biogenesis, it has been welcomed into scientific terminology as a convenient word, exactly expressive of the thing intended.

The same reason justifies the existence of many other words: such as, vital (the adjective of the substantive "life"), psychical or psychic, intuitive, purposive, condition (the verb), characterization, informational, orientation, educationist, stylist, æsthetics, classification, hedonism, felicific, endæmonistic, and many more. These all have been in-

roduced under the pressure of necessity, and in the interests of brevity and convenience ; and introductions of this stamp will continue to be made so long as thought expands and language grows.

(3.) The last of the above cases is by far the most subtle of the three. It implies knowledge and sagacity to a great extent, and calls for rational guidance, not simply for literary instinct—which is often sufficient for the others. It is here that error has been most frequently committed, and that carelessness on the part of authoritative writers (aided by the obsequiousness of dictionary-compilers) has been specially disastrous. The subjective sciences have much to answer for in this respect ; and yet it is precisely *there* where terms should be as far as possible univocal. We have only to recall the confusions attaching to such words as Subject, Object, Consciousness, Sensation, Idea, Thought, in order to appreciate the magnitude of the evil ; and if we add Analysis, Synthesis, Perception, Cause, Virtue, Morality, Rectitude, we have a case sufficiently clear for strong condemnation.

Let us take an instance from Logic. In the logical doctrine of Judgments or Propositions, the words “analytic” and “synthetic” play a prominent part, and the meaning attached to them is clearly understood. They are the Kantian equivalents for what in English philosophy go by the names of “verbal” and “real,”—*i.e.*, propositions whose predicate adds nothing to what is already given in the subject, and propositions where a real advance is made by the

predicate. But, in a recent logical work,* entirely different significations have been assigned to these two leading terms. An analytic judgment is now understood to be, one that deals simply with immediate presentation or the present perception—such as, “This is a house,” “there is a man”; while synthetic judgments are those that go beyond the immediate presentation and imply an inference or ideal operation—such as, “Yesterday it rained,” “we leave town on Friday,” “I have a brother settled in Australia,” “God is a Spirit”. Now, it is quite undoubted that these two classes of judgment are different, and ought to be kept distinct. But what particular propriety is there in the nomenclature? None whatever. The Kantian signification is one so deeply rooted in philosophy that we only make confusion by running another alongside of it and independent of it. If the author did not wish to originate a name, he might have found “presentative” and “non-presentative” ready to hand; and these would have answered in every way better than those he has chosen; they would even have suggested, by their very form, the sense intended to be conveyed by them.

We next take an example from Psychology. Mr. Leslie Stephen, in his *Science of Ethics* (p. 83), lays down the proposition that “all conduct may be considered as a set of habits, to each of which, so far as it is voluntary, there is a corresponding instinct,” and then proceeds to explain,—“I use both words in the widest possible sense. By a habit, I mean any mode of conduct which can be brought under a general rule, and this, of course, would include the automatic

* F. H. Bradley's *The Principles of Logic*.

as well as voluntary actions. I use instinct, again, to include all conscious impulses to action, whether including more or less reasoned choice, and whether innate or acquired." Now, by this change of meaning, in the case of two such prominent and important psychological terms as Habit and Instinct, only evil can ensue. For, if Habit is extended so as to include the automatic and reflex actions, then we need to introduce a word to express that which excludes these but yet is secondarily-automatic,—in a word, that which Habit in its present acceptation signifies; and if we restrict Instinct to "conscious impulses," then we require a term to cover the ground that instinct at present indicates, which is certainly not restricted to the *conscious*. Mr. Stephen's change is supposed to have some advantage in giving proper expression to the Evolution doctrine of the correlation between painful and pernicious actions, on the one hand, and pleasurable and beneficial, on the other; but it does not appear to be indispensable in this connexion, and its disadvantages are obvious and fatal.

The Evolution doctrine also seems to necessitate an extension of the meaning of the word Utility: and this presents us with an Ethical example of our principle. Utility is not now what it was in the hands of Hume and others; but is made to include both "pleasure-giving" and "life-preserving". That there *is* such a correlation as the doctrine posits seems in the highest degree probable, and the proof of it and the distinct enunciation of it are things for which we are deeply indebted to the Evolutionists. But why pour the new wine into old bottles? Why not rather make a new bottle for the new fermenting wine? We should not thank

the Intuitionist if he used the word Virtue to signify both "virtue" and "happiness," because, on *his* doctrine, the two are correlated. No more need we thank the Evolutionist for employing the same term for both the subjective fact of pleasure-giving and the objective fact of life-preserving.

An example from general Philosophy are the words *a priori* and *a posteriori*. These are used in at least five separate and distinct meanings ; and many confusions are the result of this complication of significations. There is first the Aristotelian usage, when *a priori* stands for reasoning from the cause to the effect, and *a posteriori* for the reverse process of reasoning from effect to cause. We have next *a priori* taken as the equivalent of deductive reasoning and *a posteriori* as a synonym for induction. Closely allied to this is the third application, where *a priori* reasoning means reasoning from the notion or conception of a thing to its actuality—more especially applied by theologians to the ontological proof of God's existence ; the *a posteriori* proof being the teleological argument or proof from Design. Again, *a priori* signifies, with Kant, intuitive innate cognition, in contradistinction to knowledge acquired from experience, which he designates *a posteriori*. Fifthly, *a priori* and *a posteriori* are sometimes put for the plainer, homelier, more correct words "prior" and "posterior".

These are faults indeed—grave and patent. But there are counterbalancing facts ; and, if it is in the mental sciences that we find something special to censure, it is there also that we meet with some of the best examples of conformity to the principle now under consideration. A case in point

is Altruism. It would have been quite possible to extend either of the terms Sympathy and Benevolence so as to include what is designated by this word ; *i.e.*, there is nothing in the conception of altruism incongruous with the central notion embodied in either of these two terms. On the contrary, Sympathy and Benevolence have something in common which they share also with Justice; and this common something is precisely the disinterested or altruistic element. But such an extension of either Sympathy or Benevolence—words well-established in philosophy, with a well-understood ethical signification—would have been productive of unsatisfactory results. And so, it was well done to introduce the foreign Comtist word Altruism—which subsumes sympathy, benevolence and justice under one head,—and to familiarize us with this all-important aspect of ethical conduct.

So with many other terms, which need not here be enumerated.

I have said that, of the three imperatives just considered, the last is the subtlest and most difficult of application. And so, indeed, it is. For, it is not always an easy thing to determine whether confusion is or is not likely to be produced by altering the meaning of a word. Probably, few changes have ever been made in the significations of terms that have not seemed to the makers of them to be recommended by some advantages. There is something that the innovation can accomplish, or is supposed capable of accomplishing, that is both in itself desirable and that has not been otherwise effected. Hence our perplexity. But the difficulties, after all, are more theoretical than practical, more imaginary than real ; and, where there is singleness of

purpose, the balance will (in most instances) be readily enough struck between advantage and disadvantage, between drawback and recommendation.

One further remark. There may be an exuberance as well as a deficiency of words, and terms may be introduced into the language unnecessarily.* This is mostly the case when a new name is employed to express a fact that is sufficiently provided for already. Such unnecessary words are :—Pronouncement (dictum or judgment), flex (bend), preachment (preaching), licit (lawful), instrengthen (make spiritually strong), wrongous (wrongful), enounce (enunciate), &c. These are all superfluous; and, as very often they are hybrid formations too, or are defective in euphony, or both, they are objectionable on this account also. Even uncouthness is no trivial matter :† indeed, one can hardly conceive a more cutting criticism than this—“A host of strange words, inharmonious, sesquipedalian, or barbarous;” and it was mildness itself when Cicero (that purist) designated the great coiner of inharmonious words among the ancients (Zeno, the Stoic) *ignobilis verborum opifex*.

* I do not, of course, refer to slang and vulgar terms.

† So grating is the want of euphony, that it is sometimes felt to be a sufficient reason for dropping an otherwise unobjectionable word, and for substituting one of cognate formation. Thus, “executer” (with the accent on the first syllable) is differentiated from “exècutor” (with the emphasis on the second) both in spelling and in pronunciation, both to the eye and to the ear; and yet you rarely find “executer” now used (some of our best dictionaries do not insert it), but in lieu of it we have “executant”.

Sufficient has now been said upon the nature and limits of altering the meanings of words,—of what Kant called, in his own peculiar terminology, Synthetic Definition (*definitio synthetica*). The processes involved have been shown, the dangers have been pointed out, and the safeguards and remedies have been enumerated. The tests adduced are a kind of critical apparatus,—the operation of which will be abundantly exemplified in the sequel.

CHAPTER II.

DEFINITION : ITS NATURE AND ITS MODES.

IT is the object of Definition to determine the nature or meaning or signification of a thing (taking "thing" in its widest application, *i.e.*, as including, not only outward material objects, but also names, notions, mental states, &c.) : in other words, definition is the formal attempt to answer the question, "What is it?"* The older rhetoricians, such as Quintilian, regarded it further as concerned with the question, "Whether it is this?"—but this last question is obviously extralogical, and must be relegated to provinces not here under consideration. Thus, it is the function of the definer to tell us what Procrastination is, but we must look elsewhere for the determination of the point whether any given case is really to be brought under the category or not ; just as we depend upon the jurist, the lawyer, and others specially exercised in sifting and ap-

* A subtle distinction has sometimes been drawn between the parts of the formal proposition embodying the answer, and a refined usage has restricted the name "definition" to one part of the defining proposition, *viz.*, to the predicate (or *definiens*), or that part of it which contains the assertion respecting the subject, which last in turn is known as the *definitum*. But this distinction, though sometimes of use, is too finical to be regarded as of primary importance.

praising evidence, for the determination of the true classing of an alleged act of "theft," of "murder," or of "libel".

But, besides the question, "What a thing is," there is another that modern logics accept as pertinent to the subject in hand ; namely, "How we come to know a thing—how we reach its nature?" The object is not now to formulate, but to ascertain. And thus, the defining operation has to be viewed in two distinct aspects—first as a *process*, secondly as a *product*. Each of these aspects demands our consideration.

I.

What is Definition, regarded as a process? In other words, how is it that we determine the nature of a thing? In what way do we assure ourselves as to what is really to be understood by it? The answer is, that there are two ways of obtaining the conception,—namely, Induction and Deduction ; and, according as we employ the one or the other, the definition itself may be called an inductive or a deductive definition.

Inductive defining is of this kind. It consists in procuring or collecting numerous instances of the thing to be defined ; then comparing and examining these, with a view to the discovery of their agreements and the emphasizing of their distinctive characteristics or differences. It is obviously, therefore, a means of reaching the *essence* of a thing ; for that alone (in any intelligible acceptation of the term) is essential which marks a thing off from all others, however nearly allied or similar they may be : and essence, as thus determined, has comparative stability and scientific value,

and compares favourably with essence as resting on the more popular basis—the common consent or general agreement of men. It is only, however, by a stretch of language, that the process can be denominated “inductive”. For induction, properly conceived, is essentially inference,—a passing from the observed to the unobserved, from the given to the unknown. But here there is no inference of the strict kind, but simply marking and recording differences and agreements. It is consequently a species of Generalization, but not properly Induction, and is to be ranked along with Classification and other kindred operations.

Deductive defining, on the other hand, is a constructive process, working upon, or manipulating, selected materials. Certain elements are chosen, and these it puts together in a certain fashion : it is an ideal or synthetic operation, dispensing with the need of laborious comparison of instances, and the examination of details.

Examples of both may now be adduced.

Inductive Definition.

1. Let us take, first, inductive defining ; and no better instance could be found than the definition of Man. Starting with the genus Animal as our collection of living beings suitable for comparison, the work that lies before us is to pass in review the various points that animals and men have in common, and then, by eliminating these, we are left with the differentia or distinctive property. In pursuing this operation, we find the work greatly simplified by the mass of zoological knowledge that lies ready to our hand, and by the anthropological generalizations that enable us to

dispense with unmanageable minutiae. Looking, first, to man's Body, what is it that distinguishes this from the bodies of other animals? The very word "animal" means possession of an organized structure capable of discharging the functions of physical life. But this structure, far down in the scale of being, is of the simplest and most elementary character; and, generalizing the fact, we say that man as a vertebrate is distinguished from the whole of the invertebrates by the circumstance that he is endowed with a nervous system of a peculiar kind—*viz.*, spinal cord and brain enclosed in separate bony cases (spinal vertebrae for the one, and a skull for the other). And this would be sufficient if we were simply marking off the vertebrates from the invertebrates. But, besides this, it is necessary to differentiate man from the other vertebrates—apes, horses, reptiles, &c.; and it would be no distinguishing mark to adduce the higher nervous system, seeing that this is a point possessed by the vertebrates in common,—although, of course, it is graduated in the animal series, and admits of degrees. We must look, therefore, in some other direction for the thing desiderated. Let us try then a comparison of the body of man with that of the other higher animals, and see how we fare. We fare precisely as we did before. For, man and the higher mammals share in the general structure and organization of the body. Both possess the same nervous system, the same locomotive apparatus, the same disposition of the various parts and organs of digestion, circulation, respiration, secretion, &c. The erect posture even is not unique,—much less the mark that Cuvier thought entirely characteristic—*viz.*, the prehensile thumb; and the

sole differences between man and the anthropoid apes, on the side of the body, are simply of degree (hairiness even comes under this assertion), and do not serve to demarcate the two in any proper manner. Not here then do we discover the differentia of which we are in quest. We pass next to the Mental characteristics. These may be conveniently arranged as emotive, intellectual, and volitional. Do the higher vertebrates and man share these in common, or is there at this point something distinctive? As to the emotions, it is notorious that they are possessed by many of the dumb animals as unmistakably as by man. Sociability, sympathy, friendship, affection seem to be strong in these; even a rudimentary conscience may be detected (we have all seen it in our pet dogs): and if we take emotions of an opposite kind (hate, anger, retaliation, revenge), we fail to find in them a ground of distinction between the human being and the brute creation. Volition is a thing more difficult to gauge. We want the means of testing the brute world in any adequate fashion, and the absence of articulate speech is unquestionably a great barrier. Still, the evidence points all in one direction; and we can trace the influence of motive here as elsewhere, and the rudiments at any rate of Will are not obscurely discernible. There is less uncertainty when we come to intellect. Reason is clearly traceable among the brutes; and it is not possible to indicate a single intellectual function which is distinctively and unambiguously human. Here too the difference is one of degree, not of kind; and the differentia is certainly not given either in Owen's *homo sapiens* or in the unqualified proposition, "Man

is the rational animal".* One point still remains, and in this outstanding point we may, I think, obtain the defining difference. Man alone of all the animals employs articulate Speech. Some day, indeed, it may be possible to resolve this into a function of one or other of the three mental powers—feeling, intellect, will; possibly enough it is simply a concomitant of a certain stage of intellectual advance. But this possibility in no way alters the fact. So long as man is articulate speaking and the other animals not, the mark remains emphatic; and on this emphatic mark we lay the stress of the definition.

Now, in this example of inductive defining, we have arrived at the conclusion through comparison of instances with elimination; and the formal expression of the result when once achieved would be by genus and difference,—“animal” (genus), “speech-employing” (difference). And this is a very good illustration of the process generally. It consists essentially in noting agreements and differences, and when a satisfactory conclusion has been found, we fix it in a verbal sign, according to the main defining mode (to be presently considered), namely, *per genus et differentiam*. The method is of vast importance in science, and in the Natural History sciences more particularly. But it would be quite a mistake to suppose it confined to this sphere. On the contrary, the great originator of the method had

*This ought to be the form, rather than “man is *a* rational animal,” if we wish the definition to be entirely characteristic. It is observable that the older logicians (such as Boëthius) defined Man by means of two differentiæ. Instead of saying “rational animal,” they said “rational mortal animal”.

not this province in view at all, when he first employed it. The conceptions that Socrates tested were chiefly those of Politics and Ethics,—such as the good, the beautiful, the just, the true : and there too the process is invaluable at the present day. What the moderns have done is to improve on the Socratic Method and to extend it ; and, while a more exact and scientific shape has been given to it, it has been shown also to possess inestimable utility in a very wide area—in philosophy, in science, and in common life alike.

2. But we must not pass from inductive definition without observing that there is not only a positive, but also a negative, aspect of it. It may proceed, as above, on the comparison of similar instances ; but it may proceed also on the examination of instances that are opposed. Thus, in our previous example, instead of confining ourselves to the genus “animal,” and searching for the differentia within that group, we might go beyond that, and contrast Man both with other living beings outside his own kingdom and with things lifeless in the kingdom of minerals. In the latter case—when man is put in opposition to the inorganic world—we are aroused by the magnitude of the difference ; and when confronted by two such things as life and lifelessness, which are wide as the poles apart, we have a sharp and vivid impression conveyed, which, being sharp and vivid, will also prove lasting. In the former case, the difference (though still great) is not so striking ; but, once apprehended, it will be amply sufficient to enable us to distinguish between vegetable and animal life, and to pre-

vent our ever confusing a being that possesses sensation and voluntary motion with a being that (though living) is destitute of both.

So, we may reach our conception of Soul by contrasting psychical phenomena and facts with the properties and attributes of Body : we may gain a notion of it by opposing it to materiality, extension, and the like ; and such a conception may stand us in good stead, and answer the purpose of a fuller and more determinate definition.

Inductive definition by means of Antithesis (even as a process) is frequently of great use, and is indeed indispensable ; and this for a twofold reason—(1) because “all things are double, one against the other,” and (2) because, in many cases, knowledge of a thing is in great measure knowledge of what the thing is *not*.

The great advocate of this form of Definition is Professor Bain, whose *Logic*, Part II., Bk. IV., is altogether invaluable.

Deductive Definition.

It is somewhat different with Deductive Defining. The area here is much more limited, and the utility is of a different kind. Although we see it in force in the region of the Imagination (the fable, the myth, poetry, romance, &c.), it is pre-eminently the Mathematical Method, and is much easier and much less complicated and (of consequence) less liable to be questioned than the other. It is simply the construction of a compound notion out of several simple ones, as in many of the definitions of Euclid. Thus, “a square is a four-sided figure, having all its sides equal,

and all its angles right angles". In this, we have merely to put together certain given conceptions—"four-sided figure," "equality," &c., and induction of particulars is not required. It is here, as Professor Bain says in his *Logic*, that we have "the one grand exception to the principle of defining by the generalisation of particulars": and, as the same writer further observes, the notions thus constructed are "artificial compounds".*

II.

Such, then, is Definition, considered as a process,—regarded as a means of attaining definite conceptions. We must see now what it is, regarded as the verbal expression of conceptions already achieved.

The defining modes, as distinguished from the defining processes, are manifold and various, and a mode that is satisfactory and proper in one instance may be quite inapplicable to another. Thus, if the thing in hand be a member of a well-known and commonly-accepted class, and if it possesses a characteristic property whereby it is easily recognized, a simple reference to the class and to the characteristic is a sufficient definition. In other cases, again, the most that we can do is to enumerate the constituent elements of the notion, or, at any rate, the more striking and important of them. While, in still other cases, nothing more may be in our power than to bring forward

* On the place and character of mathematical definitions, see Dugald Stewart's *Elements of the Philosophy of the Human Mind*, Part II., Chap. IV.

the opposite of the thing to be defined, leaving the impression produced by the contrast to secure against confounding things that differ. The first of these modes is Substantial or Essential defining (*definitio substantialis, essentialis*), best known as *per genus et differentiam*; the second is technically known as Analysis, or (to use the Ciceronian and Scholastic terminology) Partition (*partitio* or *partium enumeratio*); and the third is Correlation, Antithesis, or Contrast. But, besides these, there are other forms of verbal presentment,—each serviceable in its own way, and each indispensable in certain situations, and under certain circumstances. We have Description and we have Example, and I do not go beyond the limits of our subject when I add Etymology and History.

It now becomes necessary to say something of each of these in turn.

1. Definition *per genus et differentiam*: more accurately, *per proximum genus et differentiam vel differentias*; for the superior genus employed is proximate, not remote, and the difference is usually plural, not singular.

This mode, of course, reposes on the scholastic doctrine of the five predicables*: according to which, the higher class or genus (*γένος*) contains under it lower classes or species

* I call it Scholastic, rather than Aristotelian; for (as is well known) the predicables with Aristotle were only four in number,—*vis.*, proprium, definition, genus, and accident; and, although the fivefold division goes back to before Porphyry's time, it has come down to us mainly through the Scholastics. See, for example, Grote's *Aristotle*, p. 276.

(αἰσθη), and the differentia (διαφορά) is that which marks off the various species of a genus from one another. And, as its object is to fix the meaning or connotation of a term, it recognizes the insufficiency of merely adducing the genus for this purpose, and lays down the necessity of supplementing it by the specific difference. In other words, it answers the question, "What is it?" (*quid sit*?) by emphasizing the *sort* of thing it is (*quale sit*).

Thus, we wish to define Feeling, and state it to be psychical force. But instantly we are met by the consideration that there are other psychical forces besides feeling, and, on reflection, we find that the very thing we desire to know is precisely the circumstance that demarcates this species of psychical force from all others. Our definition, therefore, must include the distinctive difference; if we stop short of that, we err by being too vague. And so we say, feeling is the psychical force that assumes the form of pleasure and pain: where "psychical force" is the genus, and "pleasure and pain" the differentia.

Furthermore, it must not be supposed that the differentia is necessarily a single characteristic. On the contrary, as has been already hinted, there are often several differentiating marks, not one of which, standing alone, would be sufficient to distinguish.

For example, in the old and popular definition of Volcano as "a burning mountain," we have only one specific difference; but the scientific and more exact definition requires three,—*viz.*, "cracks or fissures in the earth's surface; the escape of steam with explosive violence from the openings, often propelling rock-fragments into the atmosphere; and

the out-welling, under the influence of this compressed steam, of masses of molten materials”.

Again, a Slave is not sufficiently defined by the single characteristic of his being a labouring man, but to this single feature have to be added two others, and then we obtain (with Mr. Herbert Spencer) the full conception—“a man that labours, under coercion, to satisfy another's desires”.

With these explanations of the nature of differential defining, let us proceed to a consideration of its *utility*.

Writers on Formal Logic tell us, it is valuable as laying hold of the “essence” of a thing. In a sense this may be granted, and in a sense denied. It cannot help us in our *search* for essence; that, as we have already seen, is the function of the defining *processes*. But, once the essence is attained, it serves to fix it in a formula or verbal statement; and, as it takes note only of the genus, species, and difference, it has the advantage of not relying either on bare accidents or on inferential properties. It excludes—(1) defining by deductions or *propria* (*ἰδία*)—for example, “revenge is sweet,”—and so declares *the nature* of a thing, and does not merely give us information *about* it; (2) defining by accidental or variable attributes (*συμβεβήκοτα*)—as plants by their colour or shape or size, or animals by their attitudes or aspect, or minerals by their degree of roughness,—and thus avoids distinguishing by means of a mark that may or may not be present, and so may fail even to identify the object.

Exception, however, must be made for the case of *inseparable* accidents. For here indeed we have defining marks, as here indeed we have constancy and uniform

concurrence. Neither barking, mewing, bleating, lowing, neighing, nor grunting is more than an accident of the dog, the cat, the sheep, the horse, the ox, the pig ; but as, wherever we have the animal, we have the corresponding sign, this invariable concomitant becomes an important fact in characterizing and identification.

But the main value of essential definition lies in its compactness. Not unfrequently we are able to state the specific difference in a single word (the adjective), and, where we cannot, a short phrase is commonly all that is required. Thus, in the propositions "deformity is an unnatural shape or form," "a tabernacle is a movable or temporary habitation," "an echo is a reflected sound-wave,"—"shape" or "form," "habitation," "sound-wave," are the genera, and the *single words* (adjectives) "unnatural," "movable" or "temporary," "reflected," give us the specific differences ; whereas, in such definitions as "arithmetic is the science of numbers," "elasticity is the property or power that the particles of a body possess of recovering their previous form after alteration," "pity is fellowship excited by the sufferings of another," "merit is the value that we place on virtue," "Religion is morality touched with emotion," "murder is killing by private individuals,"—the differentia, although not fixed in a single epithet, is given in a *phrase* sufficiently short to be in the highest degree convenient.

Sometimes, also, it is expressed in a single compound word ; as in "sunbeam," "moonlight," "hedgerow," "pear-tree," "glow-worm," "armpit," "footstool," "mahogany-table," "headache,"—where (as Dr. Latham has pointed out) the first or accentuated syllable is uniformly the species, and

the second or unemphasized the genus. There are many kinds of "beams," for instance, of which the sun's beams are but one example : hence "beam" is the genus or wider notion, and "sun" gives us the specific difference. Tables, again, are of all varieties and are made of numerous kinds of wood : we specify the distinct variety when we prefix "mahogany". Ache is a generic name for a particular kind of pain : it is one form of it which affects the "head".

This brevity is a special recommendation almost everywhere ; but it is particularly desirable in the Dictionary and in Educational Manuals and School-books, where above all things it is requisite to have something that shall be both portable and easily understood.

Yet, with all its advantages, Essential defining has certain material drawbacks. In the first place, it defines by means of the proximate genus ; but, in many cases, the proximate genus is less appropriate than the remote one. Thus, to take the striking instance adduced by Ueberweg in his *System of Logic*,—"the definition which would subsume the circle under the proximate genus *Conic Section*, would in the majority of cases be less useful and convenient than that which subsumes it under the more general notion of *plane figure*, and in elementary geometry would be quite inadmissible". Secondly, genus and species are very much a matter of convention, and there are cases where the two may with equal propriety exchange places. Thus, it is all one whether we say that Relation is a certain kind of Proportion, or Proportion a species of Relation. Caprice is a form of arbitrariness, but Arbitrariness may not less properly be defined as a form of caprice. In cases like these, where

more than one definition is equally appropriate, essential defining is at a discount. But, thirdly, the greatest drawback lies here :—the workableness of the mode depends upon whether we have got a sufficient number of well-ascertained and readily-intelligible groups fitted to stand as genera, and whether these genera are easier of comprehension than the species they contain. Oftentimes these conditions cannot be complied with ; and, where they are not complied with, our method fails.

Hence we see what sort of perfection may be claimed for Essential defining. It is not the perfection of an omnipotent or universally-effective instrument, it is not the perfection of being able to make everything plain to even the meanest understanding ; it is the perfection of a logical operation which, when it can be applied, grasps the essence of a thing (to the exclusion of its accidents and propria) and retains it in a symbol. And its utility depends entirely on the matter we are dealing with, and the end we have in view. The question, therefore, whether it is the absolutely best method on any given occasion, must be determined by the particular circumstances. One thing, however, we may confidently say—it finds a large field of operation in word-handling and the discrimination of synonyms ; and, as this extends both to the Dictionary and to Philosophical terms, it has important lexical and philosophical applications. Every exact answer to the question beginning in mediæval fashion, “What is the difference between?” (*quid distat inter?*) must pay regard to the resemblances of the things to be differentiated as well as to their dissimilarities, and, therefore, naturally assumes the form of Essential defining.

2. Next may be taken up definition by Partition or Analysis (Greek *μερισμός* ; Bacon's "Collective Instances,"—*instantiæ constitutivæ*) : by which we mean breaking up a compound notion into its constituent factors, or enumerating the various elements of which a thing consists.

Thus, Man is partitively defined when stated to be the union of soul and body. The full partition of Mind is—feeling, thought, and will. Again, it is an analytic definition of Philosophy when we lay it down as comprising metaphysics, psychology, logic and ethics ; or of a Solid when we enumerate its three dimensions—length, breadth and depth. The component characteristics of Cause are—productive energy, antecedence and uniform sequence ; while authority, uniformity and bindingness give us the constituents of Law.

The method indeed might fitly be claimed as Division, were it not that this name is usually restricted in Logic to the breaking up of a genus into its species ; but, call it by whatever name we choose, it is a convenient, and often indispensable, substitute for definition, particularly serviceable for purposes of exposition, and always effective where the notion is one of considerable complexity. A main sphere of its application is the Natural History sciences. What in zoology and in botany is known as the "character" of a group is just its analytic definition : it is the systematic statement in detail of the various characteristics that, in their combination, give us the class mark.

Thus, the zoologist wishes to define the group *Mammalia* ; and what he does is to go over in succession the various peculiarities that mark off the bodily structure of mammals from that of the other vertebrates in general, and

the next highest of them in particular. He instances the double occipital condyle of the skull, such and such peculiarities of the jaw, possession of a *corpus callosum* by the brain, integument to a greater or a less extent hairy, possession of mammary glands and milk : and in these peculiarities, *regarded as a sum*, resides his class definition.—So, too, with the botanist. His plants are arranged in groups of higher and lower generality, and not one single group in all the vast number that he recognizes is characterized by a solitary property. On the contrary, each “character” (class, sub-class, order, genus, &c.) is a compound fact, and several items at least go to its formation.—It is not different even with the mineralogist. Although not possessing a classifying scheme equal in compass to that of the zoologist and the botanist, he still groups his minerals in families and species, and the character or defining mark of each is essentially a congeries.

Natural History defining, then, is necessarily analytic : and Whewell’s objection to our regarding it as definition at all, is simply verbal. Is the class-character (as Whewell maintained) merely a Type, and, therefore, incapable of being defined? It all depends upon the meaning we give to the word Type. The term may stand for three distinct things :—(1) It may signify a specimen, one of a class taken as representing the whole ; or (2) it may signify an ideal, something to which no individual existence actually corresponds, but towards which it is ever approximating (our idea of perfection, as contrasted with imperfection) ; or (3) it may signify the pattern according to which a thing

has been formed. If we accept the first of these meanings (which we ought to do) as alone relevant to the subject in hand, then "type" is simply another name for the characters *common* to the various members of a group, and it is only after knowing these common characters (and this can be got solely by Inductive defining, by comparison and examination of individual instances) that we can pronounce any of the members representative of the whole ; in which case, so far is the type from supplying the ground of the formation of a class, that itself derives its existence and its meaning only after the class has been constituted. If, on the other hand, we take the second meaning,—then it may be true indeed that a class shows a tendency to approximate to an ideal, but this approximation is not the basis on which the class is formed ; on the contrary, it is discovered, like the preceding, only after the group is made and from careful examination of its members. If, lastly, we adopt the third signification,—then this is to bring down on fact an *a priori* idea, and so to confuse our classification, not to aid it. It is too Platonic a procedure to be scientific, and must be at once rejected. The truth is, that the first meaning alone represents the idea on which classification is founded ; and, as "type" is thus subsequent to the formation of a class and dependent on it, it is simply a synonym for class-character or class-mark, and adducing its constituent elements is tantamount to defining.

3. Defining by Negation comes next. By this is signified —(1) adducing correlatives or contrasts, (2) negative defining more strictly.

(1.) First, ultimate notions (as we shall see more fully by and by) cannot be defined. They may, nevertheless, be rendered clearer when put in explicit relation with their opposites ; and so may notions of all other kinds.

These opposites may be absolute contrasts (such as, life—death, love—hate, health—disease, pain—pleasure, weak—strong, hard—soft, loud—low, far—near, back—front, don—doff, duties—rights, attract—repel), or they may be simply partial (as, light—shade, truth—error, singular—particular). But, in either case, presenting the antithesis is very helpful : and there are instances where partial and total contrasts may both be given with advantage—as when we oppose “individual” first to the particular, next to the general and the universal (*i.e.*, “one” in contradistinction to “some” and to “all”).

The method finds scope in the dictionary ; but it finds scope also in philosophical discussion. For often, in Philosophy, the best way of ascertaining the meaning of a writer is to ask ourselves what he regards as the antithesis of his leading terms. Thus, Reason means one thing, if the contrasting notion be Sense ; another, if it be Passion ; another still, if it be Instinct ; and still another, if it be Faith. The various meanings of Truth are all determined by their opposites—truth as opposed to falsehood, truth as opposed to error, truth as opposed to opinion, &c. Antithesis, again, brings out the force of Ethical ideas—as when Privilege is made the correlate of Responsibility, or when Bentham explains Utility by opposing it (1) to Asceticism, (2) to Sympathy and Antipathy. A thing and its opposite circumscribe the “universe” of a writer’s thought ; and when we

have viewed them both, we see exactly the sphere in which the conception moves, and can guard against misunderstanding and irrelevant criticism.

The limit of the method lies here, that language does not possess a supply of correlative terms at all adequate to the number of correlative situations that arise in experience. Only those that are very pronounced, or that are of frequent occurrence, have distinct names assigned them ; and the rest are either passed by or left to be expressed by cumbrous circumlocution.

(2.) Again, by the other form of negative defining we understand indicating the nature of a thing by pointing out what the thing is *not*. Thus, the geometer's definition of a Point is "that which has neither length, breadth, nor thickness"; and the *differentiae* of a Plant, as distinguished from an animal, are (according to the naturalist) the two negative properties—"destitute of sensation and of voluntary motion". Again, Essence is well described as "that which is neither accident nor property"; and Eternal is "without beginning of days or end of years".

This mode of defining is often very useful in discriminating synonyms. Thus:—Liberty is absence of restraint (a previous state of slavery, bondage or confinement being supposed), as distinguished from Freedom, in which no such negative notion is involved. Again, Uncertainty is the want of a fixed mental attitude, whereas its neighbour Doubt points to a positive mental state. Again, Defect signifies that something is wanting which, in order to completeness or perfection, ought to be present ; while the pre-

sence of something that ought not to be there, is signified by Fault ; and Flaw means the presence of a positive blemish. To Avoid is simply "not to approach" ; we Shun what we purposely flee from or eschew.

Objection, indeed, has sometimes been taken to Negative defining, on the plea that in definition we wish to know what a thing *is*, not what it is *not*. But this, when put in the unqualified form, betrays a twofold confusion. In the first place, it discloses an inadequate appreciation of the relativity of human knowledge—both of the fact that we cannot have direct and positive knowledge of everything that exists, and also of the fact that man's knowledge is a union of opposites. And, in the next place, it shows a wonderful obliviousness to the circumstance that real progress towards a positive result is often made by our becoming aware of where *not* to find the thing we are in quest of. Two errors with far-reaching consequences,—which need not, however, be followed out here.

4. Next in order comes Description (the Stoic *ὑπογραφή*).

The forms it assumes are such as these :—verbal painting of scenery ; delineation of human character, of habits, customs, manners, and the like ; an account in words of models, apparatus, specimens, &c. ; record of past events. And the great importance of it lies in the fact that it is the only feasible means of treating the *infima species* or individual.

5. A word now on Etymology.

This is a branch of Definition (called by Cicero *veriloquium*,

notatio or *conjugatum* [sc. *verbum*]) that was explicitly included in the subject by the older logicians (*e.g.* Boëthius*), but which in modern times has fallen into disrepute. The fate is partly merited and partly unmerited. It is unmerited when we remember that etymology, though not of necessity revealing the present meaning of a word, does often guide us to the main idea signified by the term—does often enable us with wonderful precision to grasp the central conception around which secondary significations cluster; but it is thoroughly merited when we consider the abuse to which it has frequently been put, and the great confusion (in our dictionaries especially) that it has led to. Thus, we are within propriety when, in handling the word *Definition*, we take note of its etymological signification of *limiting* or *marking off boundaries* (hence the Greek *ὁρισμός*), for this indeed is the central notion of the operation; but we are only misleading when we define *Geology* as “the science of the earth,” or *Philology* as “the love of talk”. There is good reason given in the principles that regulate the change of a word’s meanings (as laid down in last chapter), why etymology should fail to be a universal expositor of import. Usage, rather than theoretical exactness, determines meaning; and a study of the best writers in a language is of far more value than any examination of a word’s structure.

The method is mainly of use when it becomes desirable to treat a word *historically*; and, as this occurs chiefly when we are working towards a definition on inductive principles,

* See his *De Definitione*.

it is there (as we shall see abundantly when we come to the Philosophical Vocabulary) that its help is most conspicuous.

Word-history and Etymology have both the same range and both the same limits in defining. They are of value when they serve to elucidate the meaning : when they fail to elucidate, they become hindrances. With great advantage may the definer be also a philologist, but it should never be forgotten that philology is by no means definition.

6. Much the same may be said of defining by Example. It is the function of an example to illuminate, to help out the sense ; and, wherever it does so, the end of definition has been effected. But in order to secure the end, the examples must be well-chosen—must be relevant and pointed ; inappropriate or ill-selected instances are worse than useless.

The sum of what has now been said is simply this :—

We wish to know what we are to *understand* by a thing (name or object). The answer that informs us, is a definition. But sometimes we have to search for the answer, and sometimes we have it ready at hand, stored up (so to speak), waiting our convenience. In both cases, we are said to define ; but the second case deals with a result, the first exhibits a process. Sometimes, again, we can give a full direct answer, but frequently our answer is only indirect and partial. Hence there are degrees of definition, and the method varies with the kind of thing under consideration.

CHAPTER III.

DEFINITION : ITS LIMITS AND ITS TESTS.

I. *Its Limits.*

DEFINITION, as we have just seen, is concerned with *meaning* : it tells us what a thing (name or object) is, or (otherwise expressed) what we are to understand by it.* A thing, therefore, before it can be defined, must have a fixed and determinate signification. It does not hence follow, however, that everything with a fixed and determinate signification can be defined. Logicians have laid it down that neither the highest class (*summum genus*) nor the individual or lowest species (*infima species*) is definable ; and the doctrine is undoubtedly correct, if by definition we understand *per genus et differentiam*. The highest class is simply, in modern terminology, the "simple idea" or "ultimate notion" ; and ultimate notions are beyond the range of definition. The most that we can do in *their* case is to advance the opposite notion, where language has fixed it in a name, and, for the rest, to trust to the individual's own experience. Thus : "pain and pleasure," as Mr. Leslie Stephen has said (see *The Science of Ethics*, p. 45), "are words which it is

* These two forms of expression are identical in *Logic*. It is *Metaphysics* that raises the inquiry, Whether a thing and our conception of a thing are the same or different ?

impossible to define ; as they are names of the highest class and not a species of some more general class, we can no more define by genus and difference than we can define light and darkness, subject and object, or past and future : but we can still know what they mean". Yes truly, they are all "highest," but highest in the sense that they are most *fundamental*, not in the sense that there is nothing superior to them, nothing above them ; for obviously "pleasure and pain" are only one kind of mental state, and both may be arranged as species of Feeling ; while "past and future" are subsumed under the notion of Time ; and so on with the others. In the literal meaning of "highest," there can be but one *summum genus*—one thing than which there can be nothing higher,—beyond the *most* general there cannot be a *more* general ; but, as *ultimate notions*, highest classes are many, and they must be simply accepted as data of experience, to be named or labelled indeed, but not to be further analyzed or described.

In the case of the individual, on the other hand, we are restricted (as has been shown) to Description. A good description, however, is unquestionably of the nature of a definition. It helps us to realize and to understand, and it serves also for identification.

But, besides the individual and the ultimate notion, there are other things that are properly indefinable. Many of our complex mental states—fear, perplexity, choice, intention, love, hate, doubt, belief (some of them emotive, others intellectual, and others still volitional)—need to be experienced in order to be known ; we do not at all give a clear idea of

them by simply enumerating the elements of which they are composed, or by subsuming them under a wider conception. Compound though they be, their whole essence lies in the composition ; and this cannot be caught by any logical method, or reproduced in a verbal statement. So with not a few of the ordinary situations of life,—eating, drinking, cheating, stealing, lying, borrowing, helping, hindering. Experience is the sole teacher here, and it is very questionable how far the current practice of explaining them by essential definition is successful. The explanation rarely illuminates, and is often darker than the thing to be explained ; instead of the *definiens* helping us to the meaning of the *definitum*, the *definitum* throws light on the *definiens*.

II. *Its Tests.*

Recognizing, then, this fact of limits, let us next inquire, How do we test a definition ? By what criteria do we determine its validity or value ?

The answer, of course, is dependent on the kind of definition in question. Are we asked, How do we test a *perfect* or *complete* definition ? Then, the rules are so and so. Are we asked, How do we test a definition that is not ideally perfect, but only as complete or perfect as the case admits of ? Then a different set of rules obtain, and their stringency is a matter of degree.

I. Take, first, Perfect or Complete Definition.

The rules here are three in number.

RULE I. :—Empty the notion to be defined of its contents :
 in other words, (1) show its full meaning or connotation, but (2) avoid including what is not distinctive or irrelevant.

The first clause (1) of this rule recognizes the fact that the characteristic mark of a thing may not be a single *differentia*, but several *differentiæ* ; and any definition that transgresses it is inadequate as being *too vague*. It also implies that the connotation represents the fixed and constant characters, and cannot be expressed by a mere concomitant or accident. The second clause (2) reminds us that there may be foisted into the *differentiæ* spurious characteristics, marks that have no right there ; and a definition that errs in this respect is inadequate because *redundant*.

(1.) The first of these errors—*vagueness*—is a very common one, but a very grave one. Thus, I define Sentimentality as “forced emotion,” or Sympathy as “the power of representing or imagining the feelings and condition of another”. But other things than sentimentality answer to the first characterization ; and unless I take home another’s feelings and conditions to myself, unless I make them my own, I may imagine or represent them to myself with all the vividness possible and yet fall short of experiencing what is properly known as sympathy. Again, I may define Pain as “tension” and Pleasure as “equilibrium,” but my definition is inadequate ; for many things besides pain exhibit tension (*i.e.*, tendency to change of state), while equilibrium (or

tendency to persist in one state) is not confined to pleasure. Once more, I define the Root as that part of a plant which grows underground ; forgetting that "tubers" (such as the potato and the artichoke) also grow underground, and yet are not roots but transformed parts of the stem, while some roots (such as the aërial roots of the Ivy) grow above the soil. Or, I define the Skeleton as the internal hard framework of an animal ; not observing that the skeleton in many animals (*e.g.*, the crab) is external.

One main form in which this kind of inadequacy appears is when a thing has both positive and negative characters entering into its signification,* and the positive alone are attended to. Thus, the geometer's Line is explained as meaning, not simply "length," but "length *without breadth*"; and if you omit the second characteristic you cannot realize the geometrical conception. Again, we usually define Happiness by its leading positive properties—intensity of pleasure, duration, &c. ; but no definition is complete which does not add to these such all-important negatives as—exemption from ill-health, absence of remorse, of biting cares, of perplexing doubts, and so forth. Negative characters, again, play an important part in Biological defining, and have a special significance there. For example, when I say of the Potato, *inter alia*, that it has a herbaceous stem "without thorns or prickles," I indicate at once by this privative mark that there are species of the genus (*solanum*)

* This fact of positive and negative characters combining to form the *full* connotation of some things, must not be confounded with the Negative Defining, or defining by negative marks alone, described as a separate Mode in last chapter.

to which the potato belongs, that *have* prickly or spiny stems : while, in saying of Mammals they have “visceral arches as completely devoid of branchial appendages as in Birds and Reptiles,” I point to the circumstance that there are other vertebrates in which these appendages are present ; just as the “headlessness” of the Lamellibranchiates is a deficiency which marks them off from the Gasteropods, with which in many other respects they are very nearly allied. Yet, how often is the class-character (or class-mark) of biologists notorious for its omission of negative peculiarities !

Closely connected with this comes definition *per accidens*, or adducing the usual concomitant of a thing—its variable accompaniment—as its defining characteristic : as when we say “a volcano is a burning mountain,” forgetting that there are (or have been) volcanoes with no accompanying mountain ; or when we define a Continent, *accidentally*, as “a large tract of land not wholly surrounded by water,” forgetting that America is a continent although entirely sea-girt, while Borneo is a large sea-girt tract of land, but does not rise beyond the dignity of an island, and sea-girt Australia is sometimes reckoned as an island, sometimes as a continent.

(2.) A *redundant* definition is the converse of the previous ; it is one where you get too much, instead of too little, asserted ; it errs by excess, not by defect.

This error may arise either from including accidental characters among the essential, or from introducing such as are derivative—*i.e.*, *propria*. Thus, if I include in my definition of Sleep the recumbent attitude of the body, this is to introduce an accidental consideration and one by no means

indispensable ; for, even in the human being, sleep may ensue when the body is in the erect posture. If, on the other hand, I assert that "knowledge is power,"—this, however true, is no definition, nor any part of the definition, of Knowledge, but the statement of a fact about it—a *real* proposition, therefore, not a *verbal* one.

RULE II. :—That the *definiens* or defining term be simpler or more easily intelligible than the *definitum* or term to be defined.

This is founded on the obvious fact that the object of all definition is clearness, and that clearness is attained only when the language employed is readily understood.

Examples :—You define "white heat" by "incandescence"; but is not this to invert the order of intelligibility, and to explain the clear by the obscure ? Nor are we much aided in our effort to understand Faith by the old Hebrew definition of it * as "the substance of things hoped for, the evidence of things not seen"; where one of the darkest and most metaphysical of terms "substance" (*ὁυστασις*) is used to explain what by comparison is plain and transparent. Likeness is ill defined by "similitude," Fulness by "repletion," Opening by "aperture," Bury by "inter," Lop by "detruncate," Needy by "indigent," or Fewness by "paucity". Latinized terms, as a rule, are more difficult to comprehend than Saxon ones, and, instead of explaining the second by the first, the first should be explained by the second.

* It is found in Philo, and is perhaps of Alexandrian origin.

The rule, however, is manifestly relative, and that in more ways than one. It is relative to the department wherein the definition occurs ; it is relative to the state of human knowledge at the time ; it is relative to the particular object the definer has in view. For instance, it would be admittedly ridiculous in the lexicographer to define Light as "the transmission of energy through an imponderable matter called ether, in the form of waves or undulations," for the *definiens* would be far more obscure to the unsophisticated intelligence than the *definitum*. But, in science, it is quite different ; and this which would be ridiculous in lexicography is precisely that which Physical Optics demands, and which we meet with constantly in expositions of the Undulatory Theory.

RULE III. :—Avoid Tautology, or definition *in verbo*—the great pitfall of lexical definers.

We turn to a Dictionary, and what do we find ? Duty is "that which is due," Mineralogy is "the science which treats of minerals," Altruistically is "in an altruistic manner," Existence is "anything that exists". And, where the absurdity is not quite so transparent as this, it is because the original word has been replaced by a synonym : as when we are told that Life is "*vital* force," or Pleasure is "*agreeable* sensation," or Chewing is "mastication," or Mental phenomena are "*psychical* phenomena". The lexicographer's transgressions are flagrant and quite unpardonable ; but this is a subject that will fully occupy our attention in the next chapter.

Three rules then are applicable to a perfect definition, and they afford a threefold test of its perfection. The first tests its adequacy as to *completeness*; the second tests its adequacy as to *intelligibility*; the third tests its adequacy as to *formal expression*.

II. We pass next to Incomplete or Imperfect Definition.

Under this head are comprised the six modes—Negation, Analysis, Description, Etymology, History, and Example. Of these, the three last need no further handling. They all obey one and the same RULE, namely:—

To be used in so far as they elucidate; when they fail to elucidate, they are worthless.

The first, too, has been already sufficiently considered. Its scope as Correlative or Antithetic defining is great, whether when standing alone or when used in conjunction with other methods, and its sphere of application is hampered simply by the limitations of language. Its range as Negative defining more strictly (see last chapter) is narrower than that of bare Antithesis: but, where applicable, the RULE is:—

To include only such negatives as are pertinent.

There remain, therefore, only Analysis and Description; and of each of these we must take special notice.

I°. Analysis.

RULE I.:—Exhaust the included particulars, or the constituent elements of a notion; and exclude everything that is not strictly characteristic.

This is the equivalent of RULE I of Perfect Defining ; and, like that too, has a twofold application.

As to the first part of the injunction, it is easy enough to exhaust the particulars in some cases, but in others it is almost impossible. In such an instance as Butler's definition of Virtue—"justice, veracity, and regard to common good,"—there is no excuse for the inadequate enumeration : neither need we now-a-days rest satisfied with the old twofold partition of Mind into Active powers and Intellectual powers. But what shall we say when we approach such a complicated subject as the class-mark or defining-character in Natural History ? We have now in each, even the lowest group, a vast number of particulars to attend to, and the difficulty is to ascertain which are simply superficial, variable or accidental, and which are constant, all-important and essential.

How, in like manner, shall we make sure, in the case of the class-character, that our enumeration is not redundant, as well as imperfect ?—and this introduces us to the difficulties of the *second* part of the injunction. We may have too much as well as too little ; and the current, biological groupings exemplify both defects in a remarkable degree.

These points, however, will all come before us at a future stage, when we reach Biological definition. It is sufficient here simply to have called attention to them, so as to show the kind of difficulties besetting the Analytic Method.

RULE II. :—See that the particulars are mutually exclusive.

This is one of the requirements of a logical Division, and, as Analysis is a species of Division (only it is applied to *defining* purposes), it is applicable to the present operation.

Suppose we agree to define Virtue by an enumeration of constituents, it will not do to have the parts intersecting or overlapping. This was the fault of the old Greek division into—Wisdom, Temperance, Courage, Justice : but it is the fault also of the modern classification of Duties into—Personal, Family (or Domestic), and Social. There is here obviously a cross-division. For the second branch assimilates itself to the third, being, equally with it, extra-regarding ; and if we depart at all from the ordinary twofold partition, *viz.*, into Self-regarding and Extra-regarding,—the same reason that would lead us to make a separate class of Family or Domestic Duties, would justify us also in isolating Duties towards Friends, for a friend is an *alter idem* as much as a child is, and stands to us in nearly as close a relation, and our regard for him is certainly not identical with our regard for Society (the outside world) in general. Yea, the same reason would justify us in isolating Patriotism also ; for, love of one's country occupies a position nearer to friendship than the other extra-regarding duties do, and should in reality be classed in the same category with it.

It must be acknowledged, however, that this demand for mutual exclusion cannot always be complied with. When we are dealing with living beings (as in Natural History), we are confronted with the phenomena of *growth*, and it is the characteristic of growth that it advances by imperceptible degrees ; it is continuous, and does not present us with sharp-cut lines and well-defined boundaries. Hence cross-

division, to a greater or a less extent, is inevitable. Even mental phenomena shade into one another and partially overlap : and in cases less pronounced than either of these, we have blending and intersecting to a considerable extent, and our second rule has frequently of necessity to relax its strictness.

II°. We turn now to Description.

RULE I. :—Follow the order of intelligibility.

This order, of course, varies with the matter in hand : it is one thing for Poetry, another for History, another for Science, and so forth. But the point to be observed is, that an order in each department there is, and that description is best which follows the order most appropriate to the department.

Thus, take Botany. The plant is the individual to be described, and the descriptive order is this :—root, stem, leaves (vegetative organs, or organs of nutrition), floral envelopes, stamens, pistil, ovary, and seed (organs of reproduction) : and whoever goes methodically over these parts, in any given case, cannot fail to have (or to impart) a clear idea of the object. So, there is a best order in Zoology. In describing the animal, we take :—organs of digestion (jaws, teeth, tongue, stomach, &c.), respiratory organs (lungs, gills, &c.), organs of circulation (heart, veins, &c.), organs of locomotion (cilia, limbs, &c.), organs of secretion (liver, &c.), reproductive organs, organs of sensation (nervous system,—double in the vertebrates). In like manner, Mineralogy has

a scientific and methodic plan of describing the mineral. First comes Crystallization ; then follow Physical properties (including cleavage, fracture, hardness, specific gravity, optical properties, &c.) ; last of all come Chemical properties, with the relevant Analyses. So with any other sphere of knowledge. System is necessary for good description, and method cannot be neglected with impunity.

Sometimes intelligibility is aided by throwing the descriptive matter into the form of a Table.* This is a frequent device in botany, and answers the purpose well—particularly for beginners. Professor Oliver has put it to good use in his *Lessons in Elementary Botany*, where he supplies what he calls the “Flower-Schedule,” and requires it to be filled in by the student. The points to be inserted are—the various “organs” of the plant, the “number” of the parts of each organ, their “cohesion” (*i.e.*, union of like parts), and their “adhesion” (union of unlike parts); to which are added in a foot-column the “name” of the flower described, and the botanical “class” or “division” to which it belongs.

RULE II. :—Use a good Descriptive Terminology.

This is absolutely indispensable, if description is to produce its full effect, particularly in the Sciences. Yet, there are miserable defects in this respect, and much room remains for improvement. For instance : can the botanical termino-

* Not to be confounded, however, with the Tabular Presentation advocated farther on (*see* Chapter X). This is descriptive of the *individual* ; that is suitable for *contrasting groups*.

logy be regarded as at all adequate when it employs such a word as *glands* for at least four different things (*vis.*, cells or hairs containing resinous or oily matter, the lobes of a disk, the lobes of the involucre of the Spurge, and the viscid balls of pollinia), or *adnate* in two separate and distinct meanings, or which has no settled connotation for such important terms as *nectary* and *nucleus*? Or, can we be satisfied with the zoologist, who calls the lower jaw in Vertebrates, the upper pair of (so-called) jaws in the Arthropoda, and the beak of the Cephalopoda indifferently by the name *mandible*; or who means by *mesentery* at one time the membrane that attaches the intestine to the walls of the abdomen, at another time, the vertical plates of the somatic cavity of the *Sea-anemone*?

But this is not the place to enter into details. Enough that we indicate the bearings of the rule, and emphasize its importance. The whole will receive a fuller handling in the latter part of the chapter on Biological Definition.

So, then, there are limits to Definition; and it were well if we kept this fact clearly in view, and refrained from insisting on logical defining in cases where it is not relevant. It were well also, in cases where definition is in point, if we learnt to gauge the possibilities of the various Modes, and steadily adhered to the rules applicable to each. If definition is necessary to clearness, nothing is more necessary for definition than a just knowledge of its capabilities and attention to its tests.

CHAPTER IV.

LEXICAL DEFINING.

THERE is great scope for the operation of logical principles in the field of Lexical Defining (taking that word in its widest sense as including all the modes of grouping and of setting forth the meanings of terms), if only these principles were firmly grasped and consistently applied. But, unfortunately, lexicographers in general have not been ambitious in the matter of logical attainment, and (confining ourselves to English) the latest of them have failed to diminish the shortcomings of their predecessors. Indeed, we might rather say they have considerably added to them. For, aiming at comprehending in one work a variety of distinct provinces, they have dissipated the strength that they ought to have concentrated ; and what behoved to be their main object has been subordinated to others of an inferior rank, or else has been so combined with them as to suffer seriously from the process. The result has been exactly what we should have expected. In the attempt to do many things, much has been badly done ; and our dictionaries, as a rule, are in a lamentably unsatisfactory condition.

Our quarrel with them is twofold. On the one hand, they contain a mass of confusing mischievous extraneous matter ; on the other hand, they are vitiated by many grave defects

of order and of method. Their errors are partly of omission, and partly of commission. On the side of commission, we have such practices as the attempt to define the undefinable, an inordinate and misleading use of etymology, an altogether inadequate conception of the range of correlativity and of its value: and, on the side of omission, we have the total want of discrimination of synonyms, the ignoring of certain useful defining expedients (*e.g.*, adducing an apt and easily-intelligible phrase), little or no systematic grouping of the various meanings of words, or else grouping on a plan that breaks down in the working, and (not to multiply particulars) the absence of any consistent separation of the scientific and the non-scientific significations.

It will now be my object to follow out these things a little in detail; noting as we go along the weak points in the ordinarily accepted methods of word-handling, and using the accredited dictionaries in illustration.

But, first of all, I must observe that there are various matters of great lexical significance that do not here come under our consideration. What, for instance, is the proper mode of "entering" words in a dictionary, and how best to represent accent and pronunciation, are questions that do not fall within our province.* Excluded also is the determination of the points,—how far obsolete words demand the lexicographer's attention; and what is his duty with respect to fugitive or non-naturalized terms? A parenthetic para-

* But the first will be referred to at the close of the chapter, in connexion with "meanings".

graph, however, may be pardoned on this last topic, as it is one of unusual interest.

The object of a dictionary, as I understand it, is not to record and explain *every* word in the language, but only such words as can with reasonable propriety be regarded as part of the language, or likely to become such at no distant date. The line, therefore, must be drawn, not simply at usage, but at *good* usage, or, at any rate, respectable usage. And when this is done, all terms that are simply eccentricities of an individual writer, or that are supported by no worthy authority, are to be ignored. In this way, slang terms and words authorized solely by inferior writers, are at once cut off.

Hence one of the weakest points in Dr. Murray's *New English Dictionary*. It admits into its pages fugitive terms and terms sanctioned solely by journalism. Of this kind are its "nonce-words" (*e.g.*, altruize), and many others of a similar standing (such as, abjective, abjudge, abjunctive). If, as I take it, the dignity of a dictionary is far above that of a mere word-register, and if, further, its compiler is to be an educative power (and, therefore, a guide) to the user,—this is certainly to be strongly deprecated.

But, to return from this digression. I proceed now to the matter more immediately in hand.

Definition.

We start with the subject of definition, strictly so called.

It is of first and vital importance that the dictionary-maker should have this subject thoroughly at command.

Nothing less will serve than that he be fully master of the logic of the matter, and both willing and able to apply it. He must have continually before him the marks of a good—and, therefore, of a bad—definition (*i.e.*, he must, as far as possible, avoid tautology or repeating in an altered form the word to be defined, inadequacy or not emptying the term of its whole contents, complexity or the use of terms more difficult to understand than the one to be explained); he must know what words can and what words cannot be defined; he must have a clear insight into the import of terms, so as to be able to determine meanings, to exclude irrelevant significations, and to discriminate subtle shades of difference; he must be familiar with the principles of Classification and of General Naming; and he must know and, as far as may be, respect, the doctrine of logical Division. Put otherwise: in order to secure the utmost accuracy of definition, the lexicographer must attend both to *the matter* and to *the form* of his propositions, both to the information imparted by them and to the outward or verbal expression of it. He must also be familiar with the various defining modes and processes—their nature, their limits, their uses, and their requirements.

To begin with the most fundamental of these points—the definable and the undefinable.

Of the latter class are all *ultimate notions*, and many notions that, although not ultimate, yet cannot be understood without experience of the thing itself. To the former class belong all the terms that remain after the undefinable and the partially definable are subtracted. But

between the two classes there lies a disputable region—*Lucanus an Apulus anceps*,—and the exact boundaries of this region may themselves be matter of debate. Speaking generally, it contains a number of derivative terms that may be defined with effort, but that, nevertheless, are practically useless until the situation represented by them actually occurs; terms in whose case a verbal description conveys to the ignorant no idea whatever, or only an idea that is very vague and hazy. A just appreciation of these distinctions would at once suggest the proper modes of treatment; but a just appreciation is exactly what we look for in the dictionaries, and do not find.

Ultimate notions cannot be defined. Yet let us turn to any of the best and most widely-used dictionaries, and at every step we see this fact ignored, and laboured descriptions offered of what is to be settled simply by an appeal to individual experience. We have indeed got beyond the stage that irritated Locke, when Motion was set down as “the act of a being in power, so far forth as in power,” and Light as “the act of perspicuous, so far forth as perspicuous”; but the principle that prompted these ridiculous performances holds its ground as ever. Motion is still “change of place, or change of posture,” as though “change” did not itself imply motion; and Light is “that which shines and enables us to see, or which produces vision” in entire oblivion of the circumstance that “shining,” “seeing,” “vision,” cannot themselves be understood without a reference to light. Life, again, is sometimes represented as “vital force,” sometimes as “state of being,” sometimes as “animate existence”; and we take it all in as though in these phrases we were imbibing

real knowledge : or perhaps, we are best pleased with the effort that describes it as "that state of animals and plants in which the natural functions and motions are or may be performed". Heat, again, is given as "sensation of warmth," and warmth is referred back to heat, in profound unconsciousness that the operation borders on the ludicrous ; while the changes are duly rung on "form," "outline," "shape," in order to produce Figure, and Figure in turn plays an important part in producing them. Again, Assertion is put down as a kind of statement or proposition, and Statement and Proposition are both of them recorded as a kind of assertion. The whole class moves in a vicious circle, or else it is set forth in inadequate explanations ; and, either way, incalculable damage is done to the public understanding, which accepts all in entire simplicity and has no conception of the sleight-of-hand that is being practised on it.

The thing, then, to be fully realized at this stage is,—that in every simple idea or ultimate notion we have something that must be started from, something that must be taken for granted, something to be referred to individual experience, and that—except in the case of correlatives, where together with a thing we can produce its opposite—nothing can be done in the way of making the meaning clearer or more intelligible. When we have said of Light that it is the opposite of Darkness, with a partially opposed correlative in Shade,—we have said all on the subject that words can say. We need never hope to make plain the nature of Life to a man that does not understand it when put in opposition to Death. Cold and Heat are mutually implicated, and their names may be brought together with effect, using Luke-

warmness as the intermediate form ; but beyond that we cannot go. Pain and Pleasure are self-explaining, or else not to be explained at all. So with seeing, hearing, touching, tasting, smelling, fatigue, repose, sensations of the viscera or systemic sense—in a word, all those primary sensations that form the basis and the raw material of individual experience. Who will venture to define Toothache to one who has never felt it ? or what hope can we have of being understood when we try to explain Vision to a man born blind ? These experiences, one and all, are ultimate, and *as* ultimate, they must be accepted ; and the words that stand for them must be allowed to stand, without mark or comment.

But what is true of ultimate notions without exception, is also true of a large class of derivative notions,—of such as, although not primary elements of our sensibility, yet refuse to be made plainer by verbal analysis. Of this kind are many of the statical and dynamical conditions of matter, and, more especially, certain acts, attitudes, and movements of the body—sit, stand, lie, hold, fall, rise, carry, walk, run, trot, slouch, cower. Of this kind, too, is much of our complex mental furniture—thought, fear, love, wonder, trust, courage, friendship, hate, revenge, faith, hope. And of this kind are many of our social relations—help, take, give, get, bring, say, show, ask. It can scarcely be said that these are ultimate, and yet in trying to make them intelligible by verbal description we simply multiply words without knowledge. Thus, we take Help : and, on turning up the dictionary, we find it described as “aid, assist, relieve”. We next turn to Aid, and the definition is—“help, relieve, assist”. Assist, in like manner is “aid, relieve, help” ; and

Relieve is "help, assist, aid". It is similar with Hold, Give, Get, Stand, Lie, and the others. They all move in a uniform see-saw, and when we reach the end of each round we find ourselves exactly where we were at the beginning. Now, there is, manifestly, much to be complained of here ; but with a little care and attention matters might be mended. For, it is to be observed (and the fact has some philosophical interest) that undefinable terms are as a rule prolific in (so-called) synonyms. If, then, the terms themselves were left as undefinable, and their synonyms, with the necessary discriminations, arranged under them,—all would be plain. Let Help, for example, be frankly stated as a term strictly unexplainable, or (which is the same thing) let it be left with definition blank, and then let the allied terms—"aid, assist, relieve"—be given under it as species of helping, with the necessary distinctions, and let the same plan be adopted with Give, Get, and the rest, advantage being taken of contrast where contrast is of service,—and at once the confusion disappears, and just notions of the nature of this class of terms are imparted. It is thereby shown to all and sundry that to demand a set definition of each and every term in the language is wholly unreasonable, and that the attempt to meet this demand is simply vicious and illusory. There is indirectly taught a valuable and wholesome lesson in logic, and grateful light is cast upon the eyes that must otherwise remain in darkness.

It is, perhaps, slightly different with the third class of undefinables ; and here a margin must be left to the discretion of the handler. If it is possible, even with an effort, to reproduce verbally such situations as are represented in—

buy, sell, promise, breathe, chew, choke, ruin, threaten, lend, borrow, start, refuse,—there will always be a temptation to give the definition; but in many, if not in most, of these laboured efforts, it will be found that, however exact they may be analytically, they fail to make themselves intelligible unless first the situation they depict has been matter of experience, or unless it can be shown there and then to the eye. In these, as in the previous cases, “a view of the thing itself is its best definition,” and, where this cannot be had, it is on the whole desirable to keep back the verbal presentation and to be content with a simple blank.

But, in some cases, this *can* be had. We know the power of illustrative engravings; and these, when appearing in the pages of a dictionary (if they are good and judiciously selected) afford a considerable aid towards elucidation. They are no mean help in the case of the partially definable, and may be serviceable also where definition strictly is out of the question.

But what now of those terms that are quite within the scope of definition—terms that do represent situations that can be verbally reproduced?

One mode of treating them (an inferior one) has already come before us. We have seen the use to be made of Correlation in certain instances; we have only now to recognize that antithetic presentation may be more widely useful, and that, as a general supplement to a strict logical analysis, it is an important auxiliary. Indeed, it is but logical dichotomy, or bifurcation, in a particular application of it. Correlatives

are either diametrically opposed (as light-dark, up-down), or their opposition is simply partial (truth-error, man-woman, father-son); but, in either case, the method holds, and, in either case, adducing the correlative is like bringing forward an apt illustration—it illumines by a very simple contrivance. Correlatives are also contextual. Thus, owing to the particular conjunction of words in a narrative, Attack may be made to assume the form of a correlative to “resistance”; but the natural correlative of resistance is “submission,” and the true correlative of attack is “defence”. So, the opposite of Power is “impotence”; “helplessness” and “inability” are contrasts simply through the context. Darkness is opposed to “light”; the contextual opposite is “blindness”. Contextual correlatives (like contextual synonyms and contextual meanings) should have no place in a dictionary.

Adducing correlatives, then, is very helpful to defining: but the operation must be taken with a caution. Our dichotomy is not of that type represented by the stock example, “Man—not-man”: where neither word nor thing is countenanced in current English. *There*, “not” or “non” is employed to mark the negative side of a thorough-going bifurcation; the term to which it is attached is made to gather up in it the whole of the particulars excluded by the other term set over against it in the particular universe: but in English (according to established usage) “non” or “not” conveys the notion of *irrelevance*. When we say “non-moral,” we do not simply intend to complete the universe of which “moral” is the other member; what we mean is, that, as to the case in hand, *morality* has simply nothing to do with the matter; just as, in stating a fact to be “non-

reasonable," we merely declare it to be unconnected with reason. And then, as to the process itself, it is too vague to have much practical utility. What we want, commonly, is an antithesis of a different and more decided character—in other words, the logical "obverse"; and this, where we have not two separate words for the purpose, is readily enough found in expressive prefixes—such as we see in "immoral," "irrational," "unreasoning," and the like.

We have next, the help of Etymology. But how far does this extend? It is here that I join serious issue with the dictionaries.

That etymology *has* considerable value for the purpose in hand, cannot reasonably be doubted. It often grasps with great exactness the central idea of a term, and thereby affords the key that will unlock the door. But often, also, it is beside the point, and will mislead. There can be no question that many etymologies are such as to be quite unmeaning to the ordinary intelligence, and their effect is simply to breed confusion. Of this class are—tragedy, comedy, metaphysics, star, planet, stage, bizarre, and many more. It is equally unquestionable that there are others that are not simply unmeaning, but that produce absolutely false and erroneous impressions. No one, coming for the first time on the word Manufacture, would be able to extract its correct meaning from any amount of study of the etymology. "Something made by the hand," must at best convey but a very meagre idea, and the idea is worse than meagre when we remember that manufactured articles are now-a-days mostly produced by machinery. Preposterous is etymologically the equivalent of *hysteron proteron*, or

inversion of the order of things ; but the idea of inversion is submerged, in current usage, and that of *absurdity* or *ridiculousness* (the effect of inversion) is put in its place. The word Poison, from *potio* (a drink), will scarcely of itself suggest the current signification ; neither will bare etymology serve us in—asylum, automaton, barometer, journal, manifest, malefactor, sophist, impertinent, extravagant, plagiarist, martyr, and unnumbered like instances.

There are few things oftener on our lips than the months of the year and the days of the week. Yet let us define either etymologically, and how shall we fare ? If September is literally the seventh month and December the tenth, that will hardly do as a guide to present usage ; nor shall we be much helped by observing that Monday is the Moon's day and Thursday the Thunderer's.

Besides all this, we have the case of two or more words of entirely different meaning derived from one and the same root. Such are—consciousness and conscience, conference and collation, motive and motion, include and inclose, discrete, discretion, and discernment. It may be a good philological exercise to trace the historical connexion between the different senses here ; but it certainly will not do in defining to identify the various separate words, because their derivation is identical.

Similarly, affixes and prefixes, if literally translated, may lead us astray : as if, for example, we were to render Untold by “not told,” or Priceless by “without price”.

The rule, therefore, to be laid down is, that, in every case where the etymology is either unmeaning or misleading, it should be wholly ignored. It ought to be introduced only

where it serves to make clear the central thought of the term under consideration ; and then, in that case, it ought not to be brought in simply as a parenthesis, but should be worked into the definition itself.

That is the rule : and, in the face of present usage, it may seem a bold step to bring it so emphatically forward. But the need for a strict observance of it is most imperative and urgent, as will be seen by any one who cares to open a modern dictionary and to note the evils that persistent infringement of it has produced. To this cause (if I mistake not) he will ascribe much of the inconsistency and confusion that he meets with ; but I shall be greatly surprised if he does not ascribe to it also much of the current bad definition, and especially that inveterate lexical evil habit of trying to define the undefinable. Lexicographers seem to have thought that giving the root meaning of a word was actually defining, or at least that it was the first step towards the achievement ; the next being simply a move forward—on the same line or in the same direction. At the very opening of their course they went astray, and promiscuous etymology misled them.

It is somewhat different with *historical* defining, or giving the history of a word with a view to an explanation of its meaning. This is a process that, when appropriate, is both interesting and luminous. But it is limited in its power as a mode of definition. For if, as I have already said, the purpose of a dictionary is, not only to record meanings, but also to explain and to select them, in many cases the full historical treatment of a term will simply confuse the user ; and, unless it be shown which of all the significations is the proper one,

the history has failed to accomplish one main end for which a dictionary exists. Moreover, it frequently requires, in order to completeness, the insertion of whole lists of obsolete senses, as may be seen by turning to such words as Abate and Abide in the *New English Dictionary*; and sometimes conjectural senses have to be interpolated, in order to fill up a gap.

Leaving etymology and history, I next observe that, in dictionary definition, much use is naturally made of *per genus et differentiam*. Great care, however, ought to be taken in the application of this method; for genera, although logically simpler than species, are not unfrequently hard to understand, and it is no easy matter sometimes to grasp the nature of a specific difference. It is important also to take care that, when once a genus is fixed upon as the point of reference for a series, it shall be rigorously and consistently adhered to throughout the series. Thus, we agree to define the following by genus and difference, and we adopt as our genus Relation. We obtain under it as species, with their specific differences—Proportion (definite relation), Ratio (definite relation of one quantity or magnitude to another), Symmetry (definite harmonious relation in space), Rhythm (definite harmonious relation in time). It certainly would not conduce to clearness if, in the definition, these terms were referred—one of them to Relation, another to Proportion, another to Ratio, and so on; much less if they were used indiscriminately: skipping thus from genus to subaltern genera is practically most objectionable. Yet this is what we actually find in common use. In a received authority, Proportion is given as “comparative relation of parts,

Portions, shares, &c." Immediately after, it is put down as "identity, similitude, or equality of two ratios". Then it stands as "symmetry". In the same work, Ratio figures *inter alia* as "proportion," "relation". Symmetry is "due proportion," a certain "relation," "proportion" simply : while relation itself is "ratio, proportion". And this is but a type of a very common confusion ; to be found not in one dictionary alone, but more or less in all.

We must also disabuse ourselves of another idea about Essential defining,—this, namely, that whenever we can bring a thing under a genus and indicate its specific difference, we have thereby necessarily made the nature of that thing plain. Many of the undefinables that we have just been considering might easily enough be expressed *per genus et differentiam*, and we should be as far from knowing what they are as ever. I take Gash and represent it in due logical form as "a deep cut" or "a wound with a sharp instrument" ; but who will say that in this definition (unimpeachable as it is, from the formal point of view) I have given any adequate idea to him who is wholly ignorant of the thing ? Experience of the thing is required for knowledge here, and knowledge from experience dispenses with the need of a definition.

But, besides strictly defining, and occasionally in lieu of definition, it is sometimes useful to take advantage of an apt and striking phrase, especially if that phrase happen to be well-known and commonly-received ; just as it is useful in treating abstract notions to adduce well-chosen concrete examples. In this way, Exacerbate may be represented as "adding fuel to the flame". "Man of parts" is a very

good substitute for a Wit. "Silent as the grave" well expresses what is meant by Taciturn. We exactly hit the idea of Consequentiousness in the familiar expression "large as life". To Dwindle is to "grow small by degrees and beautifully less". The practice, obviously, has its value ; but it is a practice that lends itself very easily to abuse.

I have already spoken of logical dichotomy in its connexion with Correlation. Curiously enough, the dictionaries have tried it mainly in that sphere where it is not applicable. They have confined it to correlatives of negation, to those words distinguished in our language by means of the prefixes *dis*, *un*, &c. But it is just here where it does not hold. In very many cases, we cannot adequately translate these prefixes either by "not" or by "want of" or by "without". Plainly, these negatives cannot mark *degrees* of absence or privation ; neither can they express more than the mere negation implied in a term, whereas it is often requisite to take notice of the positive idea conveyed, and, in some instances, the positive idea is the chief one. Thus, Difficult is but meagrely defined as "not easy" ; 'not seemly' fails to bring out the notion of offensiveness that Unseemly contains ; Untrue and Irreligious have elements of falsehood and impiety in them that the negative rendering allows to escape. And the inadequacy of the method is further seen if we operate on such terms as—disaffirm, disrepute, disregard, disaffect, disallow ; indifferent, illogical, infinite ; unclean, unholy. But the remedy is not far to seek. Where simple negation or privation alone is present, let the common rendering be retained ; where special degrees have to be marked, it will not, as a rule, be

found difficult to obtain appropriate expressions ; where the positive ideas come prominently forward, why not refer to these direct ? There is no particular objection to our representing Disaffirm as a species of contradiction, or Untruth as a species of falsehood : Uncleaness is the presence of nastiness and filth, and Illegal is what is contrary to law. We may perhaps trace the common practice to a desire for uniformity of rendering, or, more probably, to an undue regard to etymology. But uniformity of rendering is one thing, and exactness of rendering is another ; and it is the very end of definition to be exact, even should the letter of etymology be interfered with.

Exactness, however, must not be confounded with logical sufficiency. The former is always indispensable, the latter is in some cases beyond our reach. I refer particularly to Natural Kinds. In dealing with these, considerable latitude must be allowed in a dictionary—ranging from a simple appeal to individual knowledge to an attempt at enumeration of properties, clenched with Dr. Reid's much ridiculed *et cætera*. Incompleteness is not the only defect here. There must also be a freer use of the separable accidents of a thing than Logic would willingly sanction, and some of the defining canons must be content to relax their strictness. I do not, of course, mean this as an excuse for rough-and-ready methods of defining, or for slovenliness of execution ; much less do I intend it as an encouragement to purposely bad definition. I simply state a fact, and draw attention to a peculiarity of the dictionary, for which there seems to be no possible remedy. In the animal, vegetable, and mineral kingdoms, insignificant properties may be used for dis-

crimination, and descriptions scientifically insufficient may serve the turn. Thus, Horse, in the animal world, cannot be otherwise defined in a dictionary than as a well-known quadruped, used as a beast of burden and in war; even although there may be other animals (*e.g.* the elephant) that would answer to this description. The Sheep is simply the domesticated quadruped of timid nature, with woolly fleece and bleating voice. An accident or two must serve to mark off Cat, Dog, Hen, and many more. It is the same in the kingdom of minerals. Gold is sufficiently defined for dictionary purposes when its colour is specified and its weight and value assigned—when it is given as yellow, heavy, and the most precious of the metals; and there would be an exuberance of detail if we noted further its use as a coin of the realm and the fact that it does not tarnish. A few of the properties of Oxygen, followed by an *et caetera*, is all that can be insisted on in defining that term; while Carbon, Hydrogen, and the others must be content with similar treatment. It is still the same in the world of plants. A sense of the ludicrous may prevent our following the common practice and defining Cabbage as “a culinary vegetable which grows into a *head*,” or Parsnip as “a plant and its root,” or Parsley as “a common pot-herb” or “a plant which naturally loves to grow *in wet ground*, and whose leaves in its cultivated state are used for culinary purposes”. But, all the same, we cannot here insist on fulness, anymore than elsewhere; less must satisfy us than what would be demanded by the strict logician.

And yet the handling of this department need not be so very inadequate as it usually is. Comparatively insignificant

marks may in certain cases be adduced ; but there is a limit to this, and a rule has to be followed. Not every mark will suit the purpose in hand, nor can we dispense with the necessity of a studied and careful selection. Guidance, in any particular instance, may be got from an examination of the different accepted meanings of the term in question. Thus, no definition of the word Horse will answer that does not refer to that animal's use in warlike operations, for it is this warlike employment that gives us the signification "cavalry". Those attributes of Cat and Dog, again, must have a place that give us "feline," and "canine". "Aquiline" and "bovine" point to qualities that must find their way into our descriptions of Ox and Eagle. The bigness of the largest quadruped" yields "elephantine"; and, no definition of Gold will be sufficient that does not contain a reference to its colour, which supplies us with the distinct meaning "golden". The marks may not be scientific, they may not be the deepest and most important, they may not even be exclusively distinguishing marks ; but, if they be such as have struck the common intelligence and have become embodied in the language, we dare not omit them : they are material to be utilized and worked upon and added to (if we care), but not to be summarily dispensed with.

This insufficiency, however, is not confined to Natural Kinds ; it has wider, far-reaching bearings. And what its nature and its limits are will be seen from the answer to the following question :—How far is the lexicographer at liberty to alter the significations of words ? is he rigorously tied down to their common denotation ? It is his function to

give us meanings, but these meanings must be such as are in actual use. Can he do anything beyond?

One thing is plain and evident, that he must not omit in his definition of a term any legitimate constituent that has given rise to separate senses; his analysis must be thus far complete that it excludes nothing that popular usage has rightly included. But, further, if he does go beyond the sphere of popular inclusions, he must be careful to import no element that would militate against these; he must not so revolutionize as to overturn the established denotation. Hampered by these conditions, it is plain that his operation must sometimes fall considerably short of the highest logical attainment. He cannot re-construct classes; he is subject to an imperious dictator whose regulations he may surpass, but which he cannot go against; he need not be logically inaccurate, but he must sometimes be content to be logically insufficient.

We may exemplify with Cause. This word has two meaning-giving ideas—*viz.*, Power and Origin. Any analysis of the term must cover these; but if, in view of the philosophical associations attaching to *antecedence*, it were thought proper to include this also, or rather to give explicit expression to it, the thing could easily be done. That notion does not shut out a single constituent entering into the vulgar conception, neither does it introduce a revolutionary element; it simply gives fulness to what was before needlessly incomplete.

It is different with Monarchy. We know how logicians have treated this, and what is the view taken of it in Political Science. Monarchy, we are told, is to be restricted to *abso-*

absolute monarchies; *limited* monarchies are Republics. But the lexicographer cannot listen. Monarchy is not commonly employed in this restricted sense, and *he* is not the person to confine it. Limited or absolute, monarchy is for him "government by a sovereign," and "government by a sovereign" it must remain.

His function, then, determines the limits of his operation. It is not his to overturn usage. The most that he can do is to accept the best usage, and, for the rest, to wait till this best has grown better—till men's notions have expanded, and improvement has been made in their modes of giving them expression.

*Synonyms.**

From Definition, we turn next to Discrimination of Synonyms; a point of considerable logical interest, and of great practical importance.

It has logical interest; for it consists for the most part in tracing specific differences, and is often a matter of extreme delicacy of manipulation. Thus, I take the words "an act" and "a work"; and, when I distinguish them by the circumstance that the one is an instantaneous occurrence while the other is a gradual process,—I perform a purely logical operation.

* It may not be out of place here to remark that the old Greek use of the word *Synonym* was entirely different from our modern one. When, for example, Aristotle, in the *Categories*, refers to synonymous words, he means by "synonymous" what Boethius afterwards translated by the Latin *univocari*, *e.*, the generic name which is equally applicable to each and all of the species contained under it; and he puts it in contradistinction to *equivocal* or "homonymous," which, in turn, is the name he applies to terms similar in sound but different in signification.

tion. I regard "work" and "act" as both species of Doing, but I mark them off from each other by their specific difference,—"*gradual process*," "*instantaneous occurrence*". So, too, when I discriminate "incident" and "event". I set both down as Occurrences or things that *happen*; but, while I state the first to be an immediate occurrence, I view the second as requiring time. So, a "law" and a "rule" are subsumed under the same head of Generality; but while a law holds universally, a rule admits of exceptions.

Again, synonymous discrimination is logical, for it gives scope for the application of various of the subsidiary defining modes. As already seen (in Ch. II.), Negative defining is here of frequent advantage; but there is a wide field also for the Analytic procedure. To break up a complex notion into its constituent elements and to group the relevant synonyms under each, is really to define by Analysis; and this is a process, as we shall see presently, that is often necessary.

But discrimination of synonyms is not only logically interesting; it has, further, great practical importance. For, what sophistry and confusion have not been created in theology, in philosophy, in science, in politics, and in common life alike, by using as equivalent terms that are really different! What fallacy lurks under the politician's identification of Change with Progress, or the religionist's jumble between Liberty and License! Indistinctness, in logical treatises, is the least evil arising from an indiscriminate use of Inference and Proof, Syllogism and Deduction, Induction and Generalization. How deeply has philosophy

suffered, more especially in the department of psychology, from confusing such things as Illusion and Delusion, Faith and Belief, Infinite and Indefinite ! And science itself has not always kept clear of a like confusion,—in connexion more especially with Force and Motion, Undulation and Vibration.

Discrimination of synonyms, then, is an operation of immense value ; but it is entirely unknown to the dictionaries. Yet, why should it be ? No valid reason whatever. Its introduction would be an inestimable boon ; for, although it cannot, under the limitations of space imposed upon a dictionary, appear there to full advantage, it may nevertheless be very profitably applied. It must of necessity be incomplete ; but, so far as it goes, if only it be exact, it may be very useful. Incompleteness, as we have just seen, is the besetting sin of lexicography ; but it need not be greater than is absolutely unavoidable.

In most languages, synonyms are abundant ; and they afford us, on examination, a means of drawing very important philosophical conclusions. Thus, when we find the Hebrew rife in words expressive of religious and ethical ideas, we may infer from that circumstance alone the mould in which the Jewish mind was cast, and the nature of the objects that most occupied the Jewish attention. Again, from the abundance of psychological and metaphysical terms in Greek, we see at once the distinguishing peculiarity of the Greek genius,—its leaning towards the intellectual and the philosophical ; while the practical character of the Romans is gathered from the abundance of Latin synonyms in the sphere of the social and the useful.

This tendency to multiplication of synonyms—which increases with the increase of a nation's experience and with the advance of accuracy and precision in thinking—creates no small difficulty in the handling of words. It calls for subtle discriminative powers, and necessitates devices suitable for presenting to the eye, as well as to the mind, those shades of meaning that the different allied terms are intended to convey.

The difficulty, great in all cases, is particularly great in English, from the circumstance that English is a *mixed* tongue. Partly Norman, partly Anglo-Saxon, its terms intersect and overlap in a wonderful and perplexing fashion, and words originally co-extensive in their uses soon separate and acquire distinctive significations; they are rarely, throughout the length and breadth of their application, identical.

We may illustrate with Happiness and Felicity. These were, no doubt, at one time equivalent: the second is just the Latinized form of the first. But, through lapse of time and from a diversity of causes, the second has contracted shades of difference that the other is unfit to exhibit. "He expressed himself with much felicity" is by no means the same thing as "he expressed himself with much happiness," while "happiness of diction" is but a sorry substitute for "felicity of diction". So, too, with Fidelity and Faithfulness. Both originally convertible, their present uses are far from co-extensive. It is the same with Ease and Facility, Vicinity and Neighbourhood, Brevity and Shortness, Levity and Lightness, Luminous and Lightsome, and a host of others. Rarely do we find a Saxon term that tallies in all

the extent of its application with one of Classical formation, and *vice versâ* ; and it is simply misleading to place the two side by side as exact equivalents without any attempt at discrimination.

But even within the *same* branch of the language, discrimination is needed. Conjecture, for example, is Latin ; so too is Supposition : but the terms are not interchangeable ; any more than Theme and Topic, Tyranny and Despotism (from the Greek), or Kind and Kindly (from the Saxon). The distinction has to be noted between Termination and Finale, between Undoubted and Indubitable, between Reign and Govern, between Timeous and Timely, between Temporary, Transient and Fugitive, between Flare, Flicker, Glare, between Civic and Urban, between Rustic and Rural ; while double non-Saxon equivalents—such as, Nomenclature and Phraseology (Greek and Latin), Trope and Figure, Dictionary and Lexicon, Insanity and Frenzy—introduce a further complication.

Even such seemingly identical forms as Artistic and Artistical, Enigmatic and Enigmatical, Poetic and Poetical, Prophetic and Prophetical are not really synonymous. There is a shade of difference between the two adjectives in each couple, which is sometimes difficult to catch, but which nevertheless is very real. So, too, with substantives used as adjectives : there is always a distinct difference between the substantive-adjective and the adjective proper. Thus, "science notes" and "scientific notes" convey entirely different ideas. So, "an art column" is quite another thing from "an artistic column," and a "literary review" from a "literature review". There is always need of

synonymous discrimination in cases of this kind, even when the equivalents are so nearly alike as these—"gold" and "golden," "wheat" and "wheaten," "silvery" and "silver".

Perhaps, the nearest approach to absolute synonymy is when two or more words are names for the same unchangeable object or for unchanged conventional arrangements or institutions. Thus, Shire is the Saxon name for a certain territorial division in a country; County is its exact Norman equivalent. Kingdom, again, is the same thing as Realm, Church as Kirk, Altar (among Protestants) as Communion-Table, Blackbird as Merle, Lake as Loch. Yet, even here, we can trace at least a certain difference in stateliness or dignity: and words like Cypher and Non-entity applied to the same person, yet designate him under different aspects. Pet-names, too, and household words such as "pussy" for "cat" or "bow-wow" for "dog"—have a distinct flavour of their own, which prevents them from being synonymous with any others in the language.

If the complications, then, be so numerous and so great, what shall be done in the way of dealing with them? Is there no means whereby the drawbacks of the present dictionary system may be avoided? If the difficulties cannot be cancelled, can they not be reduced in magnitude? Possibly it may be thought that the proper way would be to treat each word separately; and that would certainly be preferable to the ordinary method by which synonyms are set down as absolutely convertible. But, surely, a better plan may be devised than this, and, perhaps, we may be helped towards it by the following considerations.

On examining a list of synonyms, we find at least five points that are worthy of note :—

(1) Some synonyms derive their distinguishing meaning simply from the context—from their logical relation in the sentence, from the word or words wherewith they are connected, from the place they occupy in the writer's thoughts or in the writer's argument. (2) Others are distinguished simply by this—that one is the more familiar, the other the more dignified or formal term (rise, origin ; begin, commence ; yearly, annual ; warlike, bellicose ; flow, flux ; death, demise ; buy, purchase ; heavenly, celestial ; sovereign, monarch ; kingly, royal, regal). (3) Others denote things differing simply in magnitude or size (hamlet, village ; hut, cot, cottage ; multitude, host). (4) Difference in degree, intensity, or vividness differentiates others (wish, desire ; hatred, animosity ; pluck, tear ; murder, butcher). While (5) the large majority have nice and subtle demarcations.

In dealing with the first of these classes, there is little difficulty. Although in any special connexion there is only one word that is *the* word—although none else can suit so well ; still, purely contextual synonyms are, with very rare exceptions, beyond the scope of the lexicographer ; they ought simply to be excluded. In the case of dignity and formality, as well as in the case of magnitude or size, it will be sufficient that this discriminating mark be noted,—which may be done, of course, in a single sentence. When degree is the ruling feature, we may use the linear method of presentation, the arrangement following the order of intensity ; and, when two or more terms express the same degree, they would be united by the alternative conjunction

“or”. Thus, Unkind expresses a certain reprehensible quality in agents or in actions. The same quality, but in stronger degrees, is expressed by the words—harsh, cruel, barbarous, brutal, savage. After, therefore, defining Unkindness, it would be sufficient to say :—Stronger degrees of the same quality expressed by harsh, cruel, barbarous, brutal, savage. So, again, Unhappiness points to a certain measure of pain arising (as Butler would say) from a faculty’s not having its object. Higher measures are exhibited in—misery, wretchedness. Difficult has under it (arranged in ascending series)—hard, laborious, arduous. Servitude has—slavery, bondage. We can easily trace a gradation in each of the following groups :—

Strong, robust
 Ridicule, deride
 Clear, distinct
 Portray, depict
 Weak, frail, infirm
 Wind, breeze, gale, tempest
 See, look, gaze, stare

These, clearly, can be manipulated with comparative ease. The difficulty rests chiefly with the members of group five.

Now, of these, we may recognize two classes :—(1) where the synonyms attach themselves to a simple idea or an undefinable situation ; (2) where they are connected with a complex notion. But, in either case, the procedure is the same ; only, in the latter case, it is somewhat longer.

When we have a simple idea or undefinable situation to deal with, the method is—to set down the synonyms in a

line, arranging them in groups, each group being marked off from the others by a semicolon ; and then to append, in as few words as possible, the requisite explanation. It is the same method, with a slight addition, when we have to deal with a complex notion. The plan is to break up the notion into its constituent elements, and under each to arrange the grouped synonyms in separate clusters, each group being preceded by its ruling idea (placed within brackets), and the note of explanation following.

We shall make this plain by a few examples.

Let us begin with the undefinable word *Hot*. Its synonyms are :—"ardent, burning, glowing ; fiery, scorching". By placing these under the term *Hot*, it is at once seen that they all agree in having this in common—*heat* ; but by grouping them in the way that I have now done, and by using the distinctive punctuation, it is made further evident that the three first form one group, and the other two a second. It only then remains to add a note expressive of the distinctions within the groups themselves. This could be done very shortly, and the whole would stand as follows :—

Hot.

Synonyms:—ardent, burning, glowing ; fiery, scorching.

Note.—Of these, the three first differ simply in degree [it would not be necessary to state which is the strongest, which the weakest, if it were once understood that in expressing degree we always arranged in an ascending order] ; the two others denote (with difference in degree) the injurious or destructive

energy of heat, the idea of fitfulness also being conveyed in the former.

As an example somewhat more difficult, we may take Give. This, too, is undefinable, and has for synonyms :—“grant, afford ; impart, bestow, confer”. The note here, after the linear punctuated presentation, would be :—The giving denoted by the two first terms is that in answer to a desire ; the difference being that the desire in the first instance is outwardly expressed (as in a prayer, petition, or request), but not necessarily so in the second. The idea common to members of the second group is that of communicating ; but, while “impart” does not go beyond this, the other two members add the idea of benefiting, with the difference that “bestowing” is done *graciously*, “conferring” *condescendingly*.

Again, Argue gives us the synonyms—“debate, discuss ; dispute, contend”. The note would run thus :—The idea common to the two first is that of sifting arguments, examination in detail being prominent in the latter. “Dispute” and “contend” are the different sides of the same process ; one being to argue *against* a position (the side of the assailant), the other being to argue *in its favour* (the side of the defendant).

These, again, are the synonyms of Get, *viz.* :—“obtain, acquire, gain, win ; earn ; attain, procure”. And this is how we would discriminate them :—Of these, “obtain,” “acquire,” “gain,” “win,” carry in them the idea of effort ; but whether that effort be one’s own or not is not brought forward in the first, while *personal* effort and time are connoted by the other three ; the two last (the second of which

is the more vigorous term) having in addition the idea of competition. When reward or desert is the prominent conception, "earn" is the word employed. When we look mainly at the end to be reached, at the mark proposed beforehand as the goal, we use "attain"; and "procure" has reference to the use of means.

Probably, few notes would extend to a greater length than that needed for the synonyms of Guess (*viz.*, "Conjecture, surmise; supposition, hypothesis; divination"), which would be given as follows:—All these agree in this, that to a greater or a less extent they imply a leap in the dark. When we hazard a statement about something unknown without beforehand having reason to believe that we shall hit the mark, that is strictly speaking a "guess". When we *have* some reason, but a very slight one, to believe that what we are to say about the unknown is correct, then, that is "conjecture"; and a strong conjecture, in things *practical*, is called a "surmise". When, again, we have considerable confidence in our statement about the unknown, when there is every likelihood of our being correct—that is to frame a "supposition"; and a supposition philosophically considered (as employed in Science), is called an "hypothesis". "Divination," again, is a combination of natural sagacity or shrewdness with hazard; claiming at the same time a certain prophetic or predictive power.

Once more, we may take Leaning; whose synonyms are—"bent, inclination, bias; proneness, propensity; tendency, turn". The note runs:—Of these, "bent" and "inclination" are the most vivid terms, and both refer to the twist or leaning of the mind in a particular direction—to the fact of

its deviating from the normal line or standard ; the first pointing to a permanent or *lasting* deviation, not necessarily so the second. "Bias" also implies deviation ; but, while these have nothing reprehensible attaching to them, "bias" has : it is used when the departure from the straight is considered *irrational*. When this departure has a strictly *moral* character, we use the words "prone" and "propensity". Both of these are now employed mostly in an unfavourable sense, and, of the two, "propensity" is the stronger, and expresses best the unreflecting nature of the censurable proclivity. "Tendency" and "turn," again, look mainly to *direction* : neither of them brings prominently forward the notion of departure from a given line (like "bent" and "inclination"), neither of them carries in it the idea of what is either irrational (like "bias") or wrong (like "prone" and "propensity") ; but, while the direction of the former may be owing either to nature or to habit, that of the latter is solely an affair of nature. "Turn" expresses an innocent preference for a thing as suitable to the taste, or as falling in with a natural capacity or aptitude.

A group of synonyms would naturally be arranged under Commonly, *viz.*, —"usually, generally, ordinarily". Of these, "commonly" ought always to bear reference to its original idea of something *in common* to a great number of persons or things. And if so, then "he commonly employs an assistant," would hardly be a correct form of expression ; while "the Irish commonly live on potatoes," would exemplify the proper use. "Usually," on the other hand, has reference to what is *customary*, or what, at any particular time, *prevails* ; and, when the custom is regarded as a *law*,—

i.e., as expressive of uniformity,—“ordinarily” is the word to be employed. “Generally” means, strictly, “in the majority of instances,” and so has respect to possible *exceptions*.

Up to this point, we have confined ourselves to non-philosophical terms; but it is not different if we take terms of a philosophical cast. Thus, take Reason. This is a word that has under it as synonyms—“rational, reasonable, reasoning”. Discriminated, these would run:—The first is the general name for the *possession* of reason; the second indicates the *exercise* of it; it is the peculiarity of the third to point to one special manifestation of reason,—*viz.*, as it is seen in *connected* thought or argumentation.

So, Thought itself has various synonyms: *viz.*, “reflection, Pondering; contemplation, meditation”. Of these, the first two signify *activity* of thought; the other two represent more *passive* attitudes of mind. In “reflection,” we deliberately set ourselves to discover something or to think it out: when the process implies turning over and over in the mind, we are said to “ponder”. In “contemplation,” on the other hand, and still more in “meditation,” we yield ourselves to trains of thought or to the guidance of mental suggestion; the first more particularly with reference to objects of sense, the second with reference to truths and abstract qualities. We contemplate with a view to *taking in*; we meditate with a view to realizing the *depths* of thought.

Turn, next, to Emotive terms. Take, first, Revenge. This, as we have already seen, represents an ultimate psychical experience; it is a species of Feeling that has to be felt in order to be known, but which, when once felt, is easily

recognizable. Resentment and Retaliation are near of kin. The three would be discriminated thus :—Resentment signifies the feeling of indignation excited in the breast of the recipient on the reception of an injury (real or supposed). When this feeling works itself out in practice—when it becomes a giving in return or paying back of the injury, on the principle of “an eye for an eye and a tooth for a tooth,” it is Retaliation. Revenge, on the other hand, points to the feeling of *satisfaction* experienced by the injured person from the act of retaliation,—the zest accompanying the infliction of punishment on the injurer.

So with Sympathy. The kindred terms are—“compassion, pity, commiseration”. All are forms of Fellow-feeling ; but, while Sympathy is the name for fellow-feeling in general, and therefore signifies both our sharing the joys and our bearing the sorrows of others, Compassion (the same word, but in a Latinized form) signifies the same thing, but with greater force or intensity, and has a leaning towards relief of the distressed. When we wish a special word for sharing only in the *sufferings* of others, we find it in Pity ; and, when pity has in it a touch of contempt, we call it Commiseration.

Again, Humility is apt to be confounded with Condescension. But, while Humility is humble-mindedness, or the commendable virtue of not estimating oneself above one's deserts, Condescension is stooping from a higher or exalted position to a lower, with a certain feeling of self-complacency or tinge of self-esteem in the process, and thus has reprehensible associations attached to it.

So with Sorrow, and its neighbours—“grief, anguish,

agony". These four differ, obviously, in intensity or degree; but, besides this, Grief is sorrow in its oppressive form of heaviness of heart; in Anguish, the acuteness of the pain is specially prominent; while Agony points to struggle, as well as to excruciating suffering.

It is nowise different when we pass to Volitional words. "Choice, purpose, determination" fall under Will; but while "purpose" is simple voluntary intention, "determination" is *fixed* purpose, and "choice" is the result of deliberation.

This, then, is how discrimination would work in a dictionary; and it is scarcely necessary to observe that a word (even when expressive of a simple notion) may have more than one group of synonyms arranged under it for discrimination,—that is, if the word itself has more than one well-marked application. Thus, See is applied both to bodily and to mental vision; and each application gives us room for synonymous defining. In its first meaning, it has to be distinguished from such words as "look," "behold," "view," "perceive"; and in its second, from "perceive," "attend," "observe," "discern". The remark is susceptible of very wide exemplification.

When now we proceed to the handling of complex notions, we have no need (as has just been said) to change the method; we have simply to expand it.

Let us operate on the word Cause. The two meaning-giving ideas contained in this word are *productive power* and *starting-point* or *origin*. Each of these has its group of synonyms. From the first we obtain—"producer, efficient;

motive, reason, inducement". From the second—"source, origin". Before presenting these, it would be necessary to note that such *are* the two ideas (so far as synonyms are concerned), which could be done by means of brackets; and then the ordinary presentation would follow. Thus :—

Cause.

Synonyms :

(Productive power) — producer, efficient ; motive, reason, inducement.

(Starting-point)—origin, source.

Note.—Of these, the two first are used of *physical* causes, and are simply correlative ways of viewing the same thing. The next three are *mental*; "motive" being the general name for whatever determines choice. When the motive allies itself with our inclinations and desires, it is "inducement"; when with our rational nature, it is "reason": hence a "cause" *originates*, a "reason" *justifies*. Of the remaining two, "origin" is commencement simply: add to this the idea of continued existence and unfailing supply, and we have "source". "Source" is permanent, and perhaps remote, origin,—to which we may recur at pleasure.

Our next example shall be Law. There are three ideas to be noted here: *guidance* or *direction*, *authority*, and *obligation*. Synonyms :—

(Guidance or direction)—precept, rule, regulation.

(Authority)—injunction, order, command ; edict.

(Obligation)—decree, statute.

Note.—Of these, the three first differ simply in the de-

gree of generality with which they express the guidance of law; the first being the most general, the last the most specific. "Injunction," "order," and "command" are law's authority in different degrees of strength. "Edict" has the notion of publicity or publication prominent. "Decree" and "statute" give prominence to the bindingness of law; but "statute" is lasting, while "decree" is for a temporary and special occasion.

We may next take the verb Answer. The two prominent ideas here are *responding* and *conforming* or *agreeing*; which give us as synonyms the following:—

(Responding)—reply.

(Conforming)—correspondence.

Note.—Etymologically, Answer means "to rebut a charge or accusation"; but this is precisely the distinctive meaning of Reply, according to correct English usage. To answer is simply to inform or to make response to, whereas it is the function of a reply to disprove or to rebut. I *answer* a question, and I *answer* to my name when called; but I *reply* to a charge or to an objection. Again, in the second meaning of answer, one thing "answers" to another when the two act in unison or show a similarity or likeness (as the face and its image in a mirror); two things "correspond" when they are simply proportionate or when they are in general harmony or keeping.

From these examples (both of simple and of complex

notions), it will be seen that discrimination of synonyms is a thing quite possible within the compass of a dictionary. We may not be able to be so exhaustive as we should wish, but it is always something when salient differences are exhibited ; and it were even something though we went no farther than placing synonyms in a list by themselves and arranging them in separate groups. The space at the lexicographer's disposal sets limits to the operation ; but more space will be at his command when he ceases to define the undefinable, and when he omits the irrelevant etymons that at present occupy his attention.

Perhaps it may be asked :—On what principle do you select the word under which a list of synonyms is to be placed ? Why, for example, arrange “harm, injury, damage,” under Hurt, rather than otherwise ? What is the special propriety in considering “aid, assist ; succour, relieve,” under Help ? The answer is :—We examine the group and discover the notion that *all* the members have in common, and that determines the presiding term. Thus, we take the list—“enquire, investigate, search ; inspect, examine, scrutinize,” and, on examining it, we find that, while the first three represent (in different degrees) the effort needed to discover something that awakens curiosity, and the second three refer to the minuteness and detail implied in the process, the third bringing forward the idea of sifting or *critical* inspection,—the one thing that they all share in is *seeking*, and so Seek is the proper word to stand as heading. Again, “abase, humiliate ; disgrace, dishonour ; degrade, debase,” fall naturally under Humble ; while Confinement gives “imprison-

ment, incarceration, immuring"; and under Opposed would stand "inimical, hostile, antagonistic; adverse, unfriendly". The selection is by no means arbitrary, but is rationally determined; it is reached by an application of the logical process of elimination.

Meanings.

There still remains the grouping of different senses. This follows the same principles as before; and, indeed, synonymous grouping not unfrequently exhausts the subject, and dispenses with the need for any other. Where, however, need remains, the first thing to be done is to make a strict and thorough scrutiny of the lists, with a view to purging them of contextual and irrelevant meanings.

No one that has not looked specially into the matter has any conception of the extraordinary number of dictionary meanings that are simply contextual and irrelevant, and such, therefore, as ought to be entirely discarded. Thus, under Light (as opposed to Heavy) we find among other things—"easily suffered or performed," "easily digested," "not afflictive,"—meanings all determinable by contextual circumstances: so, too, with the meanings "slight, not great," "under influence of intoxicating liquors". Again, Life (as manner of living) has reference to happiness or to misery, to virtue or to vice; but that is contextual, and ought to be excluded: so also meanings like the following—"blood, the supposed vehicle of animation," "living form," &c. Again, the meaning of Host is one and the same (*viz.*, "vast number or multitude"), whether the word be applied to a concourse of people or to the angelic hierarchy or to

the heavenly bodies (sun, moon, and stars) or to a list of objections or of examples ; although a second and different meaning is got when you apply it to "army," for you introduce the idea of *adverse*, encountering, or opposing forces,—hence the adjective "hostile". Or, take the word Air, in its sense of *atmospheric* air ; and what right have you to apply "open air" and "contaminated air" to appear as different meanings of it (as they do in Dr. Murray's *New English Dictionary*)? "Air," standing alone, frequently signifies "the free space above our heads," but never "*open*" without the qualifying adjective "open"; neither, standing alone, does it ever mean "contaminated air". The idea of contamination is uniformly given in the accompanying adjective,—"foul air," "pestilential air," "thick air," &c. Again, the word State, if it ever signifies "plight, predicament," does so because of the particular situation in which it occurs. And Power, standing by itself, never means "celestial or invisible being," "an army," "a navy," "host". Again, Tall has its proper dictionary-meaning in connexion with height ; but shall we create another sense to meet the metaphorical expression "tall talk" ? Or shall we add to the significations of Living in order to compass a wider application—"a house, with an under-cellar and a top floor, to let". As an extreme instance, we may take the preposition To. The one great leading meaning of which, if it does not actually exhaust the significations, goes far towards doing so—is "motion in the direction of". Yet in one dictionary we find the senses set down as eleven, in Dr. Latham's *Johnson* as twenty (exclusive of Johnson's six adverbial meanings and

phrases), and in a fourth as twenty-three (with similar exclusions)! After what we have actually seen, one would hardly be surprised to find "thief" put down as one of the senses of Procrastination, because the poet has said, "procrastination is the thief of time".

Among contextual meanings, also, I include all such as arise from *emotive* associations with a word or with the thing that it denotes. Thus, Champion is properly defined as "dauntless and successful combatant"; but, when we think of a champion, there inevitably arises in our minds a certain feeling of admiration and of awe. This associated feeling, which is very real and very marked, cannot be represented either in our bare definition or among the separate senses.*

So, Sun is the name for the chief of the heavenly bodies ; but, as joy and gladness follow on the sun's presence, as well as life and health, we come to associate this luminary with the health-giving, the gladdening, and the enlivening ; associations, however, which go beyond the province of the lexicographer.

Again, feelings of deference, reverence, and loyalty are associated with our conception of the Queen ; but the dictionary-meaning of Queen is simply "female sovereign" ; just as the fact of *parentage* is the only one that enters into the dictionary-conception of Father and Mother.

These, and all suchlike emotive associations, fall to be

* It is, perhaps, because definition appeals alone to the logical *understanding*, that people are frequently dissatisfied with it. They seem to expect that it shall reproduce somewhat of the *glow* that the thing defined itself creates, and, when they miss this, they are not pleased.

considered by the rhetorician, but they cannot be regarded by the lexicographer. Each handles language for his own purpose, and the province of each should be kept scrupulously apart.

But, besides contextual and irrelevant meanings, there are also *abusive* significations. These, too, should be discarded as far as may be, although it will not be possible to apply the rule with all the rigour that one might desire. For example, the word Distance is in strictness applicable only to space, and is quite improperly applied to an interval of time : nevertheless, as the two uses are countenanced in the best English writings, the lexicographer can do nothing but accept them. It is altogether different, however, with abusive applications that are the manifest result of slovenly or careless writing, whether supported by superior authority or not. Of this class are—"affection" for "affectation," "*a priori*" and "*a posteriori*" for "prior" and "posterior," "term" for "termination," "origination" for "origin," "limitation" for "limit," "presently" for "at present," "desiderate" for "desire," "definitive" for "definite," "alone" for "only," "conceive" for "believe," "persuade" for "expostulate," and a countless multitude besides. These should simply not be recorded at all : they are not meanings of the respective words, but confusions of the senses of one word with those of another. And it is no excuse that some of them can plead occasional high authority. The very best of writers trip sometimes—Shakespeare himself is far from infallible ; and "good" usage means *consensus* of authority, and cannot be upset by an exceptional deviation in however high a quarter.

Suppose then the preliminary expurgation finished, the next thing is to arrange in the most exact and least objectionable manner the meanings that remain. This will be an easy or a more difficult task according as these meanings attach to a simple or to a complex notion, and according as they are numerous or few. Sometimes it will be in our power so to group them as to show the order of evolution (the logical, not necessarily the historical, order)—to exhibit at each stage the connecting link between a signification and the one that follows. But this will be comparatively seldom. Meanings ramify and interlace in puzzling fashions ; and, then, intervening significations have frequently grown obsolete, or perhaps they were never in use at all, and the link necessary to complete the series exists only for the philologist. Where, however, it is possible to exhibit the order of development, it is well to take advantage of it ; there is no other mode that so conduces to clearness. Thus, Eccentric gives us the evolving series—"not having the same centre as another (used of circles), out of the usual course (applied to conduct), odd" ; a series in which the one meaning slides naturally and easily into the other. So, too, the proper order in arranging the meanings of General, after that word has been discriminated from Abstract and Universal, is—"not special, common, public, vague". Active, again, has—"smart, nimble, busy". Sad has—"heavy, serious, casting down, cast down or dejected". The verb Damp has—"moisten, chill, depress, discourage, check". And so on with others.

Frequently, logical grouping follows the order of genera-

lity: it proceeds either from the general to the special or from the special to the general.

Thus, Organ is a word that has both general and special significations, and these determine the proper arrangement. In its widest sense (which should come first) it means "instrument or agent" of *any* kind; it then has such narrower meanings as—"member of a living body," "medium of communication" (as when we speak of a newspaper as being "the organ of a party"); last of all, we reach the specialized sense of "musical wind-instrument of a particular sort".

Again, State is the general name for "situation or condition"; it is next restricted so as to signify "lofty or exalted condition," "pomp and circumstance," "dignity"; it has further the special meaning of "civil government or body politic".

When the logical order coincides with the historical order, the grouping is rendered doubly effective. Good examples of this may be found in the *New English Dictionary*; as, for instance, under Advent and Agony.

But meanings, like synonyms, often group themselves around different, and sometimes opposite, ideas, and they are complicated by scientific and technical associations.

Now, where, under the same word, we have two or more sets of meanings, it is of great importance that these should be kept entirely separate; and it is of much importance also that technical and scientific uses (including the philosophical and the religious), in so far as they do not naturally arise out of the others, should be presented in separation. Total separation, too, should be made between meanings of the same word that are contradictory (such as we find in

"oblige," "let," "invaluable," "priceless," "obnoxious"); while words themselves that have a similarity in form but are nevertheless distinct words, technically known as homonyms (such as "cleave" to *cling* and "cleave" to *divide*, "hind" a *peasant* and "hind" the *female of stag*, "light" the *opposite of darkness* and "light" the *opposite of heavy*; "host" as *hospes*, "host" as *hostis*, and "host" as *hostia*, "race" from *radix*, "race" from *raiz*, and "race" from *raes*, "mass" from *massa* and "mass" from *missa*, "mean" from *main* and "mean" from *moyen* (*medius*), "one" from *unus* and "one" from *on* (*homme*); "desert" *wilderness* and "desert" *merit*, "temporal" *pertaining to time* and "temporal" *relating to the temples*, "lie" to *speak untruth* and "lie" to *rest or recline*) should be treated as distinct. In the first case, each separate group should be ranged in a separate sentence, and the differences within the groups themselves should be marked by means of the comma, the semicolon, and the colon. In the second case, each word must be dealt with apart,—in a separate entry.

Of complex groupings, I may produce a few examples.

We take the substantive Point. This, in its central conception, stands for "the sharp edge of anything". It contains, therefore, at least two ideas—*smallness* and *sharpness*; and each of these gives its group of senses, while a separate and almost incongruous signification is added by Geometry. From *smallness* (after the list has been duly purged) we get—"mark or dot," with a special application in writing and another in music; "exact place"; "precise thing (to be aimed at or considered)"; in Geography, "a

headland or promontory". *Sharpness* gives us "sting," as in an epigram. Now these (the governing ideas being bracketed, as in synonyms) would be fitly presented thus :—

Point.

Meanings :—

(Smallness)—mark or dot ; in writing, used for dividing sentences and clauses ; in music, placed at the right hand of a note to raise its value one half : exact place : precise thing : in Geography, a promontory or headland.

(Sharpness)—sting, of an epigram. In Geometry, position. Stage, again, means platform for exhibition, and it is applied also to distance. The groupings should follow this twofold application.

Again, there are two series of meanings attaching to the word Hurt, according as the injury contemplated is physical or mental.

In like manner, Conclude has a double sense :—(1) to infer, (2) to bring to an end, to terminate.

So, Inform means—either (1) to animate or indwell, or (2) to impart knowledge, to instruct.

Again, the word Pleasure has both emotive and volitional significations. On the *emotive* side, it stands both for "agreeable sensation" in general, and for that more special form of it which has vile associations attaching to it—*vis.*, sensual and voluptuous enjoyment. On the side of *will*, it stands for "wish or will," and for its outward expression "command". But such a use as that of Acts xxv. 9—where we read that "Felix willing to show the Jews a *pleasure*,

left Paul bound,"—is abusive, and so should not be reckoned.

The proper word here is, obviously, "favour".

It is a bad arrangement when the secular and the religious bearings of Office are mixed up as follows :—Settled duty or employment ; business ; act of good or ill ; act of worship ; formulary of devotion : peculiar use : a place for business : a benefice with no jurisdiction attached.

The meaning of *palm off* in Impose must be isolated from the other meanings, which all spring naturally from the (etymological) idea of *laying on*.

Once more, the various senses of Chance group themselves around the two conceptions—(1) absence of known cause, (2) absence of set purpose or intention.

So, Term has two groups according as the idea of *limit* does or does not predominate ; and by itself would stand the algebraic signification—"a member of a compound quantity".

Again, Power is either active or passive, operative or latent ; and the groups should follow the lead of these two ideas.

The meanings of Affinity would be arranged in two groups, according as they express the thing itself or indicate some property of it. Thus :—relationship by marriage, relationship in general, (special technical meanings) : family likeness mutual attraction, (special meaning in Chemistry).

The full presentation of Mind would be :—

Mind.—The antithesis of Matter and of Space ; the unextended as opposed to the extended. Divided into Feeling, Intellect, and Will.

Synonyms :—Soul, spirit.

Note.—Of these, the first is the immortal part of man,—
in opposition to Body, which is mortal ; the second
is the highest principle of man's nature, whose exact
antithesis is Flesh.

Meanings* :—

(Intellect)—thoughts or sentiments, belief ; remembrance.

(Will)—choice, determination, intention. In Scripture,
sometimes taken for *disposition*.†

There is one peculiarity of meanings that inevitably raises the question of the best method of “inserting” words. In many cases it is observable that the main term does not give *directly* the signification of the subordinate ones, but only incidentally and indirectly : that is to say, the subordinates do not attach themselves to the leading notion embodied in the definition of the main term, but to some accidental circumstance or quality connected with it or arising out of it. Thus, Casual signifies simply “accidental” ; it does not, according to established usage, stand for “injurious” or “detrimental”. But, as the usual result of an accident is

*Mind has no *emotive* significations, as already observed in Chapter I.

† It may perhaps be thought that, in arranging meanings, something might be made of the common division into Literal and Figurative. But, clearly, this division has many drawbacks. In the first place, a figure, strictly speaking, derives its force from the connexion in which it is employed ; wrest it from this connexion, and its force is gone. One great exception is Metonymy, and the other Synecdoche ; but then the meanings here can be best arranged in the ways above suggested. Again, we cannot make a separation between the literal and the figurative in many cases where we adopt the evolving-presentation. Once more, such a separation is for the most part incompatible with synonym-discrimination.

Some injury or hurt, the substantive Casualty has taken **u**p this special circumstance and has itself come to mean “accidental injury or hurt”.

Again, Air, in one of its meanings, signifies the “atmosphere”. But, as exposure to the atmosphere (if dry) removes **d**amp, the verb “to air” signifies *inter alia* “to dry”. As, **m**oreover, one of the most striking peculiarities of the air is **i**ts lightness, and as another is its apparent height,—the adjective Airy, when applied metaphorically, signifies “light,” and the adjective Aërial means “lofty”.

Office, again, means—“post, service, duty”. But, inas**m**uch as a man at his own post is usually authoritative in **t**hat position, the adjective Official signifies “authoritative” or “emanating from authority”: and, inasmuch as it **i**s natural for a man “dressed in a little brief authority” to **g**o beyond his own sphere and to intermeddle in the affairs **o**f others, Officiousness and Officious derive their meaning **f**rom this usual, but accidental, circumstance.

Now, in the ordinary mode of inserting words in a dictionary—that is to say, under the common plan of treating substantive, adjective, adverb and verb apart,—the fact here **n**oted is totally obscured. But if a mode of word-grouping **s**uch as that which distinguishes Stormonth’s dictionaries be **a**dopted, the defect is effectually remedied. Let a leading word be chosen under which the others are arranged, and let the words most nearly related be “immediately presented to the eye in a bold, black type,” instead of being “scattered over several pages,”—and a wonderful degree of light is thereby introduced; and no one need hesitate to acknowledge the value of the improvement.

These, then, are the various points of interest in connexion with the dictionary-handling of terms. In order to give a full and satisfactory presentation of a word, three things have to be carefully attended to,—its Definition (or non-definition, as the case may be), its Synonyms, and its different Meanings. Each requires the utmost delicacy of treatment, and no pains should be spared to give to it the full precision and completeness that the case admits of. Our complaint against the dictionaries is, that this has not been done. Too much has been attempted in some directions; too little in others. Grave remediable errors and defects are still rampant, and a dictionary on strict logical principles is as much a desideratum to-day as ever.

CHAPTER V.

SCHOOL-BOOK DEFINITION.

Much of what has now been said regarding the dictionary is equally applicable to the School-book. Many of the current defects of the one are no less apparent in the other. In both, there are the same tendency to explain a difficult word by one equally difficult, the same proneness to repeat the word to be defined in the defining proposition, the same disinclination to allow ultimate experiences to explain themselves, and the same disregard of synonymous discrimination. Thus, in a standard school-book of the elementary kind, taken almost at random, we have such definitions as these :—Tissue, “the substance or texture of all parts of organised bodies” ; Secretion, “matter secreted or separated from the sap” ; Negative properties, “qualities arising from the absence of other qualities” ; Ordinance, “that which is ordained, command, law” ; Symbol, “sign, token, emblem” ; Integrity, “uprightness, honesty”. In No. IV. Reader belonging to another series, we have :—Distinguish, “to mark, to signalise” ; Expectation, “the state of expectancy” ; Embossed, “covered as with *bosses* or protuberances” ; and here is the bright description given of Pyramid,—“a solid form on a triangular, square, or polygonal base, with trian-

gular sides meeting in a point"! It really takes one's ~~breath~~ breath away.

The devices suitable for the dictionary are all appropriate to the school-book, while there is here even greater scope for illustrative engravings than there.

But there are peculiarities attaching to the school-book which have no relevance for the dictionary, and which, therefore, must be duly taken into consideration if we are to appraise the matter correctly.

1. In the first place, it is to be observed that, in the School Reading-book, words have to be explained with a distinct reference to the particular lesson in hand; and this circumstance legitimates both a considerable latitude in regard to contextual meanings and also an abundant use of examples. Thus, words like Conscious, Nucleus, Capitulate, Indemnify can hardly be otherwise explained in an elementary Reader than by contextual reference—the sense must be gathered from the passage in which they occur: while such a word as Gregarious is most fitly explained to the youthful pupil by an allusion to the well-known flock of sheep or herd of cattle; Convex is rightly given as "shaped like an orange"; and the meaning of Rotation, in a lesson on the earth, is exactly brought home by such a statement as "rotation is spinning motion, like that of a wheel on its axle".

The same fact also excuses the annotator from entering into *the various meanings* of a word,—unless the word happen to be employed in more than one signification in

the particular lesson. Thus, the verb Ask has two entirely different applications, according as our object in asking is to obtain knowledge (or information) or to procure action. In the first case, "to ask" means to put a question with a view to eliciting an answer, and is synonymous with "interrogate". In the second case, there is a whole list of synonyms, from each of which the word has to be discriminated,—*viz.*, "request, beg, beseech, entreat, supplicate, implore; solicit, crave". But it is not incumbent, in explaining one of the senses, to dwell on the others also. It is sufficient to restrict the attention to the case in point, and to be prepared to deal with other cases as they arise.

So, too, with *homonymous* words. If Page occurs in a lesson, signifying one side of the leaf of a book, there is no call on the annotator to distinguish it from the wholly different word Page, a footboy.

2. Next, the definition must frequently be, of necessity, incomplete. This arises from various causes:—partly because it may not be proper to give it more than the alternative of a synonymous rendering *in the body* of a lesson, the pupil not yet being ripe for anything higher (*e.g.*, "the mean or average distance of the earth," "elliptical or oval shape," where "average" and "oval" are supposed to be somewhat easier of comprehension than "mean" and "elliptical"), or, even when it is set down in due form at the beginning (or, better still, the end) of the lesson, the term may be so difficult, technical, or scientific as to be incapable of anything but partial explanation; partly because something may in many cases be properly enough left for

the teacher to add—something in certain cases *must* be so—left. The greatest care, however, should be taken that the help given in the book is thoroughly clear and accurate so far as it goes : it may be defective, it should never be ambiguous or inexact. Nothing is worse than that the teacher should have to counteract misleading impressions created by the text-book, or to correct the authority put into the pupil's hands.

A case in point is the following :—

In a lesson on the Sun, given in one of the Readers, the expression "luminous envelope" occurs, which is thus explained—"a covering filled with light". Now, a "covering" means either something spread over a thing, or something wrapt round it. If we take the first meaning, then the above explanation is quite unintelligible to the pupil ; for how, in that sense, a covering can be *filled* with anything is far from being clear. If we take the second, then an erroneous impression is conveyed ; for, in that case, the covering is conceived as something material (it may be *paper*, like a common "envelope," or it may be leather, or it may be something else,—there is nothing in the definition to say), and inside it is placed "light," whereas what is really inside it (corresponding to a letter in an envelope) is the dark invisible solar body, which is itself non-luminous and which is never seen from earth save in the few dark spots that are now and again brought within the range of our telescopes and vision. The ideas of Luminosity and Enveloping, if they are to be explained at all, must be more clearly brought out than this, and regard must be had to the capacity and intelligence of the intended reader.

In the same book, a Comet is defined as "a star with flowing hair"—which, to say the least of it, is sufficiently metaphorical.

3. Again, a nicety attaches to the fact that, in the school-book, definitions have sometimes to be repeated in different lessons. This should only be done, however, when the explanation in a previous lesson has been necessarily incomplete, and an opportunity arises (or is created) later on for adding to what was formerly said. It should, therefore, not simply be bare repetition, but repetition *with an increment*,—on the principle that lessons ought to be arranged in a progressive order, as well in the words employed as in the topics treated of; and anything that transgresses this rule is to be condemned. If it is so, that the same words and phrases should not be repeated lesson after lesson,—it is also so that the same words and phrases should not be repeatedly selected for explanation; and, in the case of repeated explanations, it should always be—repetition with an advance.

Yet what do we actually find? In the very best of our school lesson-books of the elementary kind, unpardonable transgression. Thus, in a set of astronomical lessons (on the sun, the earth, the moon), there are certain terms that need to be explained, and these are constantly recurring. Such are—"luminous," "diameter," "obliquely," "orbit," "disc," &c. Now, if these are once explained—say, in the first lesson on the Sun,—they ought not to be the terms picked out for explanation in subsequent lessons—say, on the Earth and on the Moon. By all means, let the terms

themselves be repeated if need be ; if they are difficult terms, it might even be necessary to get up an occasion for re-introducing them, so that they may be duly impressed upon the youthful intelligence. But, the explanation being once *fully* given, it should be done once for all.

4. Again, if (as a rule) we are to repeat an explanation only when we can thereby add to it or make it clearer, this condition must be rigorously attended to, and our repeated explanation must be not less clear or less full than the original one. Thus, if in one lesson we define Diameter as "measurement through the centre," it is in every way objectionable to set it down in a future lesson simply as "measurement through" : that is to displace an inadequate definition by another less adequate. Similarly, if Evaporation be represented as "the conversion of water into vapour by heat, the opposite process being condensation," it should not afterwards appear in the bare and shorn form—"evaporation, passing off in vapour". So Quicksilver, if once elaborately defined as "mercury, a metallic fluid, so called because it is white and shining like *silver* and *quick* or lively like a moving liquid," must not afterwards be represented simply as a "fluid metal ; mercury". And so on with many more.

5. When the lesson consists of an extract from some of the standard English writings (whether in poetry or in prose), all words should be distinctly noted that are *abusively* or *inappropriately* applied. Examples of inaccurate use of words are abundant, in even our best writers, from Shake-

speare downwards ; and where they are not pointed out to the pupil and commented on as inaccurate, he is apt to accept them without question on the high authority by which they are sanctioned, and to imitate the usage—to his own detriment and confusion. Thus, Remember is quite another word from Remind, and each has its own proper signification ; yet the first is used for the second by Shakespeare in the following passage :—

Grief fills the room up of my absent child,
Lies in his bed, walks up and down with me,
Puts on his pretty looks, repeats his words,
Remembers me of all his gracious parts,
Stuffs out his vacant garments with his form ;
Then, have I reason to be fond of grief.

Again, we know the true meaning of Speculation ; but *Macbeth*, addressing Banquo's ghost, says :—

Avaunt ! and quit my sight ! Let the earth hide thee !
Thy bones are marrowless, thy blood is cold ;
Thou hast no *speculation* in those eyes
Which thou dost glare with :

where Speculation stands for “power of seeing, sight”. Again, when Smith says in *Henry VI.*, Part II., “Sir, he made a chimney in my father's house, and the bricks are alive at this day to testify it,”—he means of course by *alive* “in existence”.

So, too, when *antiquated* or *obsolete* words occur, or when words are used in obsolete senses,—the fact should be duly chronicled. Take the following from *Measure for Measure* :—

No more evasion :

We have with a leaven'd and prepared choice
 Proceeded to you : therefore take your honours.
 Our haste from hence is of so quick condition,
 That it prefers itself, and leaves unquestion'd
 Matters of needful value. We shall write to you,
 As time and our concernings shall importune,
 How it goes with us : and do look to know
 What doth befall you here. So, fare you well :
 To the hopeful execution do I leave you
 Of your commissions.

Here, in the third sentence alone, there are no fewer than three words requiring explanation. Instead of "concernings," we should now-a-days use "business" or "affairs"; for "importune," we should say "require"; and for "look to know," "expect to know". In the two first sentences, we have to note "leaven'd and prepared choice," "proceeded to you," "quick condition," "prefers itself," "needful value"; and, in the last sentence, we have "hopeful".

So, when it is said, "Ten thousand French have ta'en the sacrament, To rive their dangerous artillery Upon no Christian soul but English Talbot,"—we have to observe that "sacrament" is here used in the old Latin sense of "military oath".

Examples need not be culled from other sources. They might be taken from any of our great English writers, in prose or in verse,—Milton, Wordsworth, Scott, Byron, Tennyson; Addison, Johnson, Burke, De Quincey, Macaulay, Carlyle. But the principle is sufficiently apparent, and multiplicity of examples is not required.

It must not, however, be forgotten that there are (as I have

said in the foregoing chapter) cases where *emotive* qualities are associated with a word,—as the feeling of loyalty and respect that is aroused in us by the word King, or the sense of awe that the word Giant imparts. This may frequently with advantage be pointed out in a Reading lesson ; and the teacher or the annotator has it thus in his power to advance the reader a step beyond the dictionary stage, and to prepare the way for Rhetoric or the higher Composition.

6. I have already referred to the unsatisfactory condition of the school-books with regard to indiscriminated synonyms. But two additional complications call for notice—one having reference to synonymous *words*, and the other to synonymous *phrases*.

As to synonymous words, it is quite customary for annotators to clothe the explanation of two or more different terms in exactly the same expression. Thus, in one of the Readers previously adverted to, I find Essential in one place defined as—"that cannot be done without," and, later on, I find the identical definition (*viz.*, "that cannot be done without") given of Indispensable. So Festal is "gay, joyous," and "gay, joyous" explains Jovial too. Again, Innate is "inborn, natural," and "natural" defines Instinctive as well.

But now, as to equivalent phrases. It is unquestionably desirable to put the young pupil in possession of a stock of apt phrases ; and no gift in after-life will be found more useful, from a literary point of view, than the ability to vary the statement of a truth. It is indispensable for the preacher,

the orator, the debater, and more or less for every cultured man ; and the exercise, while laying the first foundations of Style, has also the logical value of sharpening the intellect and improving the memory. It, further, enables the teacher to see whether the pupil has really comprehended what he has read. But the practice has its drawbacks, and, therefore, should have its limits. As there is usually one phrase and one only that is the best in a particular connexion, exchanging that phrase for another is tantamount to disturbing the harmonies of the situation and to weakening the composition. There is scarcely such a thing in existence as a strictly synonymous or equivalent rendering of a phrase, any more than there are, strictly speaking, synonyms among words. One phrase may come nearer in meaning to another than a third does, but an exact equivalent it rarely if ever is ; and to regard the two as mutually convertible, is to fall into mistake.

Similarly, paraphrasing is frequently nothing else than stripping a passage of its force and beauty, and substituting for the pleasing and harmonious what is weak, insipid, tame : it is the descent from the poetical to the prosaic, if not from the sublime to the ridiculous.

* This mention of paraphrasing suggests the question of the propriety of introducing into the elementary Reading-books a few abridges or translations of our finer poetry,—more particularly Chaucer's and Shakespeare's. When the abridges and translations are well done, nothing could be better : but if badly done, would be worse, if the renderings be *weak and prosaic*. The matter stands thus :—

In the case of Chaucer, so great is the difficulty of the old-fashioned English that we can never expect pupils of school-age to be able to master it ; and yet it is a pity that some idea should not be given them of the nature and riches of *The Canterbury Tales*,—the *Prologue* especially. This would be invaluable for pupils who have no prospect of ever going farther—of ever gaining any closer acquaintance with the thoughts and mind of the father of English poetry ; but it would be of much use also as a preparation for those who will by and by be introduced to the original. And the thing could be easily done : the materials lie ready to hand in the felicitous and satisfactory *Canterbury Chimes* of Storr and Turner.

So, too, with Shakespeare. It is a positive loss when a boy is sent from school without some notion of *Hamlet*, *Macbeth*, *Richard III.*, *The Merchant of Venice*. And, as in the former case, so here. There is material at hand (supplied, for instance, in Lamb's *Tales of Shakespeare*), and the School-books are at fault when they fail to utilize it.

8. Sometimes the lesson itself is of the nature of a definition. This is so when the subject treated of is such as Air or Water, or when it is the description of some animal or plant (the horse, the lion, the oak), or when it is a scrap of biography (Howard, &c.). But, in all such cases, the lesson, in order to be effective, should follow strict Method in its disposition of facts and details, as well as be careful in the selection and limitation of the points to be brought forward.

Yet the current Readers are, as a rule, miserably defective in this respect. In descriptions of the Lion, for instance,

the outward appearance of that animal, his haunts, his geographical distribution, anecdotes about him, are all mixed up together in a perfect jumble ; the writer having no idea of the points to be dwelt upon, or of keeping separate distinct items of information, or of following the natural order in description ; and the result is that, while this single fact or that may have struck the attention of the reader and so have impressed the memory, the description as a whole has made but a vague impression. Object-lessons themselves, given by the teacher, may fail from the same reason—want of due selection of suitable points to be considered and of proper method in presenting them.

Enough has now been said, to indicate the peculiarities of the School Reading-book, on the side of word-handling ; and enough too, it is hoped, to make it apparent that our elementary school-books are in no better position than our dictionaries in the matter of logical Definition. Both need a thorough revision before things can be pronounced to be at all in a satisfactory condition ; and the strict application of Defining Canons will be as productive of improvement here as there.

CHAPTER VI.

PHILOSOPHICAL VOCABULARY.

PASSING next to PHILOSOPHY, we find that a great many of the disputes that have reigned in the Schools are (in the literal sense of the term) *logomachies*, and that whole systems have owed their existence to bad discriminations. Thus, the Moral system of Wollaston is based on a confusion. Observing that moral phenomena do, many of them, show the characteristics of Truth (taken in its ordinary acceptation as the antithesis of Falsehood), Wollaston endeavoured to reduce the whole of Morality to this single conception, and, in doing so, widened the meaning of the word to such an extent as really to obliterate moral distinctions. Ethics is essentially practical and is concerned with the Will, Truth is speculative and attaches itself to Reason; and nothing is gained, but much is lost, by denominating the chief ethical motive (*viz.*, bindingness, authority, obligation) "truth," and by classing it as rational. In like manner, much of the plausibility attaching to the theory of the Rational moralists lies in the double acceptation of the leading term Reason. Starting with Reason in the un-English sense of Intuitive Faculty or Noëtic Understanding, they can proceed on their way only by introducing the commoner and more intelligible,

yet entirely different, view of it as the faculty of *mediate* inference. So, the Philosophy of Consciousness can maintain its footing only by extending the signification of the word Consciousness, and taking it to include much that needs to be well propped up by argument and by appeals to habit, to prejudice, and to confirmed conviction. And the great *opprobrium* of the science of Psychology at the present moment as testified on all hands, by friends and by foes alike, is its want of fixed meanings to its numerous fundamental terms.

Now, in handling philosophical terms with a view to a Vocabulary of philosophy, it is customary to commence with a sharp-cut definition duly expressed in genus and difference, and then to follow up with a number of quotations from different authors bearing upon the word in question, without, however, any attempt being made to sift or classify the quotations, or to harmonize them with the accepted definition. It is further customary to follow the lead of the ordinary Dictionary and to arrange the words in exact alphabetical order.

No plan can be conceived more unsatisfactory than this. Fundamental terms in philosophy cannot as a rule be disposed of in a single sentence, nor is it usually sufficient to exhibit simply the result. In the face of so many and conflicting usages as here obtain, it is necessary also to exhibit the grounds on which the result is based. Nor is it possible to do full justice to an author, or even (in many cases) to convey his true meaning by appending a passage from some of his writings apart from the argument in which it originally

stands—by presenting it as a self-explaining dictum, violently wrenched from the context. And when, in addition to all this, the words are simply marshalled in alphabetical array, the height of insufficiency is reached ; for not only are things which have no conceivable connexion brought into immediate contact, but things that are most nearly allied, and regarding which the meaning of one is inseparably bound up in the meaning of the other, are hopelessly disjointed.

The only adequate and satisfactory plan is, to take the words in groups, arranged according to the philosophical department to which they belong (logical, psychological, metaphysical, and ethical), and, starting with one word as a centre, to weave around it such others as are most nearly allied to it in meaning or may run the risk of being confounded with it, treating the groups themselves in accordance with the methods that are most suitable for each. Not only does this give unity and intelligibility to the handling, not only does it conduce to clearness and to a right understanding of things, but it saves space and prevents repetitions. A word when once presented in its appropriate setting, need not (except in very rare instances) be again referred to ; and if the vocabulary be accompanied with a copious index, the convenience of the student is amply provided for, and the advantages of the alphabetical arrangement are secured along with those of the grouping system.

In approaching the subject of Philosophical Terms, it has first of all to be observed that there are no new methods *

* I use the word "method" as a generic name, including both *processes* and *modes*.

involved here—*i.e.*, no methods over and above those already considered. The peculiarity of the situation consists in this, that no *single* method is sufficient for the proper explication of any leading fundamental term in philosophy, but a combination of methods is required—two or more, as the case may be. I next observe that various of the methods that do not play an important part in Lexical Definition come here to the front, and several of them have a new turn given to them in order to suit the particular situation. Thus, Historical defining becomes now of special value: by which, however, I mean, not the mere tracing historically of a word's different significations, but such a historical treatment of the word as shall bring out a distinct and definite conclusion. It is, therefore, a special application of Inductive definition, and ought to be regarded as such. Here, too, Inductive definition assumes another special aspect. It takes the form of Criticism of different and contending opinions; not a full and complete *discussion* of them (that would mean unlimited space), but such a criticism as shall further the end in view—the attainment of the desiderated positive result. Again, Analysis and Discrimination are here of great importance; so too is Antithesis or Contrast; and Etymology itself is frequently of much assistance.

In proceeding now to exemplify the main combinations of Defining Methods, I shall begin with cases where Induction (either Historical or Critical) and Discrimination play the chief part, and will then go on to combinations of a more complicated character.

I. Critical and Discriminative Definition, with Contrast.

A good example of this particular combination is found in the leading Psychological term

CONSCIOUSNESS.

This word forms a centre around which have to be grouped the allied terms *Experience, Knowledge, Conviction, Attention, Perception*,—from each of which it has in due course to be distinguished.

It has been customary in philosophy to regard Consciousness as the primary condition of all mental activity ; and, as the complement of this, it has been customary to lay stress upon the circumstance that consciousness is not itself a faculty on a level with the other so-called faculties of the mind, but something that co-exists with every mental act and operation, and without which no faculty could ever be exercised.

Now, apart from the antiquated reference to "faculties" here, there is clearly in the conception itself an overstepping of the limits of fact. That mental exercise is in great measure conscious no one of course disputes ; but "psychical" and "conscious" are by no means equivalent terms, and there is every reason to believe that much of the mind's activity goes on beyond the range of consciousness. Such is the case with secondarily automatic actions ; and such, too, is the case with latent mental modifications—"obscure ideas," "sub-consciousness" ; or (to express it from the side of phy-

siology) "unconscious cerebration";* and, perhaps, we have additional evidence in the phenomenon usually expressed in common language as "thoughts *simmering* in the mind". In the face of this, a less sweeping and more guarded definition is required. The line must be drawn between the mind's *wakeful* activity and such other mental activity as stands opposed to this or is distinct from it, but which is, nevertheless, as real and effective—an activity that may go on even during our waking hours, but which is never manifested to us except in its products or results. The mind's wakeful activity is consciousness—consciousness as opposed to dormancy, dreamless sleep, swoon, insensibility, but not to death. Death is the cessation of all activity, conscious and unconscious alike; and the opposite of Death is Life—a much wider word than Consciousness. Consciousness is *awakeness*: and we must not forget that it has reference both to objective phenomena and to subjective; we are alive to things without us as well as to things within, and the mental and the material may both affect us and both engross or occupy our attention.

To that extent, then, the current definition is objectionable. But it is objectionable further as being founded on a misconception. It calls consciousness a *condition* of mental activity. But to call it a condition, or even a concomitant,† is to forget that consciousness, taken by itself, is nothing—

* This doctrine gives only a seeming countenance to Hegel's "Thought," or Schopenhauer's "Will".

† As Locke, for instance, does (*Essay*, Bk. II., Ch. XXVII., § 9): "that consciousness which is inseparable from thinking, and, as it seems to me, essential to it".

that it is simply a generic name ; a name, therefore, whose meaning is ascertainable only in distinct conscious experiences. In every moment of our conscious being, we exist in some definite state or other. Now we are absorbed in thought, now we are engaged in action, now we are experiencing sensation : but whatever the state at any particular instant may be, it is that particular state and nothing else. There is not both the state and the consciousness of it ; the state and the consciousness are identical : or, if anything further be connoted by the name—anything over and above the present experience—it is the circumstance that what now exists in one particular state may next moment be in one or other of an indefinite number of different states ; that which thinks may feel, that which feels may will, that which wills may act, and so forth.

An error akin to the foregoing is that of regarding consciousness as a sort of "luminous atmosphere," in which (as it were) phenomena are steeped, and by which they are revealed. This mode of conceiving it is very common, and, if it meant nothing more than that conscious activity is only one form of mental activity (the luminous or wakeful form), it might be allowed to pass as an eccentric way of expressing an important fact. But if it means, as apparently it does, that consciousness is something over and above distinct conscious states, it must be condemned as fundamentally erroneous, and the instrumentality of revelation that it speaks of must be discarded as a chimera. Hence we must object to such a phrase as that of Butler's, when, in the *Dissertation on Personal Identity*, he says, that consciousness does not

make our personal identity, but simply "ascertains it to ourselves".

Consciousness, then, is awakeness. And, having thus tried to set forth its true nature, let us next, for the sake of clear apprehension, bring it into relation with the other kindred and allied words wherewith it is apt to be confounded.

Consciousness is sometimes used as a synonym for Knowledge; but this can be only by the figure of synecdoche, where the whole is put for the part; for knowledge is only *intellectual* consciousness, whereas Feeling and Volition are conscious elements no less than Intellect. Knowledge, again, is intellectual consciousness in the form of mental concentration; when, out of the untold variety of conscious experiences that we have, the mind selects this, that, or the other portion, and allows the rest to pass unheeded. As has been well said, there is a discriminative and there is a selective consciousness, and, although the former is, properly speaking, intellectual, it is only the latter that rises to cognition. Nor is the matter mended if we confine the term to *immediate* Knowledge. The part for which the whole now stands is even smaller than it was before, or, if it is larger, it is only by an unwarrantable stretch or abuse of language. Yet, it is this figurative sense that seems to have led Hamilton and others into the mistake of supposing that Consciousness is founded on Knowledge,—a view that is sufficiently refuted by pointing to Feeling, where, as a rule, the greater the intellectual preoccupation the less are we awake to the feeling proper, and conversely.

Again, Consciousness is to be distinguished from Self-consciousness; this latter being, strictly speaking, a contradiction in terms. For if, as is allowed,* we have no *immediate* consciousness of self as apart from its modes and manifestations,—if, in other words, we are not *awake* to it,—a *mediate* consciousness is absurd. Hence the inadequacy of such a definition as Ferrier's:—"By consciousness we mean the notion of self; that notion of self, and that self-reference, which in man generally, though by no means invariably, accompanies his sensations, passions, emotions, play of reason, or states of mind whatsoever". Hence the unintelligibility of such a high-flown conception as this:—"Consciousness is the pure mind looking at the pure mind itself". The only intelligible signification is when self-consciousness is made to stand for the subject consciousness, as distinguished from the object consciousness,—our wakeful experience of the world within, as distinct from our wakeful experience of the world without.

In like manner, Hutcheson regards Consciousness as one of the only two "powers of perception" that he recognizes ("Sensation" being the other), and defines it thus:—"an inward sensation, perception, or consciousness, of all the actions, passions, and modifications of the mind, by which its own perceptions, judgments, reasonings, affections, feelings may become its object". It is here equivalent to what has come in later philosophy to be called Intro-

* See Locke, Hume, Kant, Reid, Cousin, Stewart, Hamilton, J. S. Mill, Bain, &c. On the other hand, see Descartes, Berkeley, Mansel, Ferrier, Veitch.

spection, and is Hutcheson's substitute for Locke's word Reflection.

Not less objectionable is it to identify Consciousness with Conviction; a very common error in philosophical disputes, more particularly in the Free Will controversy and in the metaphysical problem of the External World. Conviction is no unerring authority; it may be right or wrong, groundless or defensible, reasonable or absurd; and to try to settle a dispute by an appeal to consciousness, when all the time it is simply an appeal to deep-rooted conviction (which may be the result of education or of prejudice or of habit, or which may result from one or more of a hundred other causes), is certainly to cut before the point.

A distinction, again, has to be drawn between Consciousness and Attention. Attention is but one form of consciousness, it is consciousness *concentrated*, which, although very frequently a voluntary act, is not so always; and, on its *negative* side—*i.e.*, regarded as the withdrawing of the mind from the dissimilar elements in a class or notion in order to fix it on the similar—is what (after Kant) has been usually known by the name Abstraction. Positively, it is *focussed* consciousness or *awareness*, as distinguished from mere *awakeness*; and no good end is served by diverting it from this use. Yet an attempt is being made at present to elevate Attention to the position of the generic word; with the twofold result that the conception proper to Consciousness has become confused, while the limit of Attention itself is not strictly drawn.

Once more, there are various names used by Descartes and the Cartesians as synonymous with Consciousness,

which, however, are by no means such, and ought therefore to be discriminated. Thus, in the writings of Descartes himself, not only is Thought taken as convertible with Consciousness, but Consciousness is frequently identified with Perception. To Thought I shall return by and by, when I come to treat of Reason ; but meanwhile, as to the other, Perception is a word with diverse meanings, and surely it does sufficient duty when it is made to stand—now for sense-perception or immediate knowledge through the senses, now for the intellectual or objective element in sense-perception (as distinguished from “sensation,” the subjective element), now for the passivity of mind in contradistinction to volition, which is the mind’s activity,—without putting it to this further and more general use. Much the same may be said of Malebranche’s “internal sentiment” or “inner feeling”. Feeling expresses a distinct and definite enough conception ; but, as such, it is only a mode of consciousness—one among several ; and to employ it in this extended signification is simply to breed confusion and ambiguity.

Similar to this is Hume’s casual use of the term Sensation for consciousness,—as in the sentence “the prevalence of the doctrine of liberty may be accounted for, from another cause, *viz.*, a false sensation or seeming experience which we have, or may have, of liberty or indifference, in many of our actions”. Compare with this the wide application of the Greek *αἴσθησις*, as seen for instance in Aristotle’s *Psychology*,—where the word stands indifferently for consciousness in general, for sensation, and for sense-perception.

There are two other words not unfrequently given as the

equivalents of Consciousness, which ought, nevertheless, to be distinguished : I mean Experience and Apperception. Apperception, if we retain it at all, ought to be restricted to self-consciousness (as above explained), and Experience is a term of the widest import. Be it observed, there is a conscious and there is an unconscious experience, and the Evolution-theory has taught us that experience is *inherited*. What, however, in strictness we inherit, is not experience but the results of it. Again, our knowledge of life and of the world is in great measure dependent, not simply on what comes within the range of our own individual consciousness, but on what we learn on the testimony of others. Experience, accordingly, has to be extended so as to include History. But not even yet are its applications exhausted. It is common in Philosophy to oppose Experience to Intuition. We have here the antithesis of two sources of knowledge, or of what among our mental possessions can be given us by our life as lived in time and what this time-life is (or seems to be) incapable of originating : in other words, it is the antithesis of the innate and the acquired. In this sense, Experience is regarded as the lower and Intuition as the higher origin ; or, to put it otherwise (as is often done), it is the contrast of the more dignified and the less dignified —of the more authoritative and the less authoritative ; although upon what reasonable ground the contrast is made, one is rather at a loss to perceive. For, even granting (as we do) the existence of intuitive truths, they cannot at the best be more than true. But the knowledge got from Experience is true also : and to pit the one against the other as the more and the less authoritative, is either to use

the word "truth" equivocally or to deny that truth (*some truth*) is itself true.

It is scarcely necessary, after what has been already said, to remark that there is no proper contrast between Consciousness and the senses, such as we find Reid making towards the end of the *Inquiry*. There is looseness to a degree in such a sentence as the following :—"The way to avoid both these extremes [*viz.*, spiritualizing body and materializing spirit] is to admit the existence of what we see and feel as a first principle, as well as the existence of things whereof we are conscious; and to take our notions of the qualities of body from the testimony of our senses, with the Peripatetics; and our notions of our sensations, from the testimony of consciousness with the Cartesians."

Let us now sum up. What is the conclusion we have reached? As the result of our criticism and comparison, we find that Consciousness is best defined by antithesis and discrimination. When we have brought it into connexion with its opposites, and when we have marked it off from the things most nearly allied to it, we have done the most that words can do to make it evident and plain. Consciousness is a convenient generic name (or better still, perhaps, collective name), most nearly translatable by the term Awakeness; but we conceive it wrongly when we speak of it either as a condition of mental states or as a concomitant or as a revealer. Once draw the line between wakefulness and non-wakefulness, and it is this, that, or the other mental state, and nothing different; and to regard it otherwise is confusing and unphilosophical.

From this there follow certain important consequences. In the first place, if consciousness be awakeness, and if it is for the moment identical with the mental wakeful state of that moment, then we see that it refers, strictly speaking, only to the present. A consciousness of the past is absurd. It is Memory that deals with the past ; but even Memory, as a mental state, is a present fact. In like manner, there cannot be a consciousness of the future. We *anticipate* the future ; but even anticipation, as a conscious experience, is present. Secondly, if consciousness be awakeness, it is, as to its existence, beyond the reach of question. Dispute arises only when it is taken as a *testifier*—a testifier of truths intuitive, to the exclusion of others ; or when it is unlawfully identified with Conviction. Last of all, we can now see the intelligibility of the Cartesian position—that Knowledge is founded on Consciousness. I do not call that position false ; it is simply inadequate. No doubt, Knowledge is founded on Consciousness ; but other things (in this sense) are founded on Consciousness as well. Thus, there is no Feeling without awakeness, neither is there Purposive act.

II. We pass next to Historical and Discriminative Definition.

Our example shall be the psychological word

IDEA.

Up to the time of Descartes, the word Idea (*ιδέα, εἶδος*) was used in Western philosophy in its strictly Platonic

sense.* Neither in classical diction nor in the Latinity of the Scholastic ages, had it as yet received a *psychological* signification. The modern psychological import was then represented by *notio*, *conceptio* or *cognitio*, less commonly by *imago*. Thus, if we revert to Cicero, we find him rendering the phrase "innate idea" by "in omnium animis notio impressa" or "insita vel potius innata cognitio" (*De Natura Deorum*, I. 16); while Boëthius, six centuries later, gives us as *his* equivalent (*De Consol. Phil.*, III., pr. x.)—"communis humanorum conceptio animorum".

Now, with Plato, the Idea is *ontological* or *metaphysical*, and has two characteristics. It is both an objective intelligible existence ("uncreated and imperishable") and a pattern, model, archetype or *παράδειγμα*. Under the first of these aspects, it inevitably suggests the theory of Emanations,—more especially when the Idea is regarded (as it sometimes is in the Platonic Dialogues) as an efficient cause; and, as simple matter of history, it gave rise to the æons and other vagaries of the Valentinians, the Gnostics, and the Neo-Platonists. Under the second aspect, it is the pattern or exemplar according to which the "Divine Architect planned and constructed the phenomenal world. These archetypal ideas played a conspicuous part in Scholastic times; and probably their position in the Latin Church was due to the influence and teaching of Augustine. Boëthius, indeed, reproduces them in his *Consolations* under

* Cicero transferred it direct from the Greek, and wrote it in Greek characters,—although, when he ventures to present the thing denoted by it in a Latin dress, it is *species* or *forma* that he uses, sometimes *visio*.

the form of "imagines"; but *his* influence was mainly logical, while that of Augustine was theological and dogmatic.

The revolution created by Descartes was radical and lasting. He turned the word from its Platonic, metaphysical or ontological, signification to a *psychological* purpose (though not without vacillation and inconsistency in his own usage), making it stand for whatever is the object of Thought (and Thought with him was co-extensive with Consciousness); and, his example having been followed by Locke in our own country (*see* his *Essay*, Bk. I., c. i., § 8, &c.), the new application soon came to be regarded with favour amongst us, and is that which is now generally accepted in English philosophy.

It must not be forgotten, however, that even by Descartes himself the word is used, in connexion with the problem of Perception, in several different significations. Now it stands for the material impression made by an object on the brain; now for the mental modification arising from such impression—the *tertium quid* coming between the perceiving mind and the object perceived, and vicarious or representative of the object. In neither sense, however, would it be now-a-days employed; and this loose and abusive usage may be dismissed from our consideration.

Confining ourselves, then, to the *psychological* aspect, let us see whether the word be univocal and unambiguous in its application as thus narrowed. Nay, even within this determinate and restricted range, no fewer than four distinct classes of facts fall to be covered; and considerable confusion often arises from want of a due discrimination here.

(1) In the first place, we have ideas as *concepts* or generalized notions—the product of Conception or the Conceiving Faculty, and usually embodied in a verbal sign (spoken or written word); (2) next, we have ideas as the *copies, images* or *transcripts*, of our sense-perceptions—Representative Imagination; (3) then we have ideas as faithfully reproducing past experiences or impressions—ideas of memory, Reminiscent Imagination; and (4), last of all, we have ideas that neither represent exactly anything (objectively) real nor reproduce with strictness a past experience—ideas of Imagination proper, the Creative, Constructive or Productive Imagination.

Of these four classes, the first is obviously entirely different from each of the other three. A concept cannot with any propriety be called an image; for although that in which the thought is realized, when brought clearly and distinctly before the mind, is an individual, it is nevertheless uniformly accompanied with the consciousness that this individual is a type, one of a group, merely an example. Neither can it strictly be called a representation. It represents, only in the sense that a general notion is a notion that stands for any one of a plurality of objects, a variety of similar individuals. Ideal it is not in any such way as the pictures of the Phantasy (either representative or creative) are ideal, or as we apply the name Ideal to the reproductions of memory.

What then, passing to the next two groups, is the distinction between Representative Imagination and Memory? Both are exact reproductions of what we have actually experienced—as we experienced it, *how* we experienced it.

In neither case can we allow that fallacy or falsehood can exist (except there be provable disease or abnormality), provided only the reproduction be made within a reasonable time of the actual experience. For, granted that there may be part of the actual experience unrevived in memory or unpictured in the imagination; granted that there may even be experiences that, once gone, are gone for ever—that have failed, amidst the bustle and pressure of our manifold other experiences, so to impress us as ever again to come within the range of our consciousness; yet, in so far as our experience (say sense-impression or perception) is revived in the memory (always understanding that there is no disease, disorder, or decay, and no unreasonable interval), or in so far as the imagination retains an image,—to that extent we must accept it as true—as an exact copy in the one case, and an exact revival in the other, of the original. There is here no opposition between the real and the ideal; but the ideal does duty for the real when it is absent, shut out, or beyond our reach; it is only less vivid, less striking and imposing. But, with all these agreements, there are certain characteristic differences. The sphere of memory is wider than that of the purely representative imagination. The latter, in strictness, is confined to the picturable; not so the former. Again, in memory, there is always a distinct reference to the past in time,—in other words, the representation is accompanied with the consciousness that the original was once present; there is no such reference in the case of the transcriptive imagination. Once more, in memory there is no belief implied either in the present or in the future existence of the revived object,—all that is in-

licated is simply that it *once* was. Imagination, on the other hand (in all its forms apparently), is accompanied with at least a transient belief in the existence of the thing imagined ; * the belief being proportionate to the persistence of the image and the degree of clearness with which it is realized. Thus the two differ, even although in various points they are but aspects of the same thing.

What now of the Creative or Constructive Imagination ? Here too, as in the previous cases, the raw material to be worked upon is supplied by experience ; but there is not here, as there was there, the stern requirement of abiding strictly by the actuality. On the contrary, it is the very function of Poetry and of Fine Art to *transform* the actual (Professor Bain adds,—under the stimulus of, and with a view to gratify, some strong emotion) ; and though there are limits even to this, the limits are for the most part imposed by other considerations than regard to truth. In all flights of fancy, in all poetic constructions, in all artistic elaborations, even in the case of the so-called scientific imagination (which bases on hypothesis and analogy),—we have ideality of a character that, to a greater or a less extent, stands opposed to the real. And this is so, whatever the end be that the creative imagination has immediately in view. Whether it has for its object to fascinate or please, or whether it aims at furthering lofty and ennobling aspirations, or whether (as in some kinds of art) it panders to the base and sensual, or whether it tries to aid useful

* See Stewart, Hamilton, Bailey, Sully, &c. Reid, on the other hand, denies this belief. For the reconciliation of the two doctrines, see Ferrier, *Lectures and Remains*, ii. 515-526.

discovery or to stimulate to the investigation of the inner nature and the causes of things,—it does not in any case simply reproduce. It may still indeed be said to *represent*, in the sense that it *bodies forth* some particular conception,* or works toward some particular end; but its ideality is neither that of the representative imagination, nor that of memory, nor is it even that of conception. Its antithesis (partial or entire) is the Real; and its nature is to fabricate, produce, elaborate, or forge.

Of this kind of imagination, there are three distinct varieties; a simple reference to each of which will here be sufficient.

There is, first, that which takes place during our waking hours, and is within conscious control: Imagination proper. There is, next, that which also takes place while we are awake, but is in measure beyond our control: such is Reverie and Castle-building. And, last of all, there is that which operates during sleep, and is almost, if not altogether, uncontrollable by us: Dreams. To these have to be added the phenomena of Mesmerism and of Hypnotism.

It is in connexion with the Creative imagination that we must draw the distinction between an Idea and an Ideal. Obviously, all ideals are ideas; but the converse does not hold. The defining characteristics of an Ideal are these:—

Within the particular universe, it is the mental representation of the highest conceivable state of things, and, while it fires the imagination, it creates an enthusiasm in its favour and influences practice—leads to more or less sustained

* Where the *image* becomes an *emblem*; according to the usage of Addison,—“the spacious horizon is an image of liberty”.

efforts or attempts at its realization : and this it does in proportion as it conforms, or fails to conform, to the three following requirements,—(1) that the object (state or thing) represented is in its own nature realizable ; (2) that there is ground to believe that it may be actually realized by us—is ultimately attainable ; (3) that the attainment or realization of it is a thing desirable.

Thus, to take an example. The Perfectibility of the human race expresses an ideal. How will it affect the man possessed by it? Plainly, it will be weak or it will be strong—(a) according as he regards perfection as a thing desirable—*i.e.*, as meeting felt wants and satisfying present aspirations ; (b) in proportion as he conceives it to be within the reach of human effort and exertion ; and (c) in the degree in which he believes its realization (in whole or in part) ultimately attainable.

These are the three conditions that regulate ideals : and the science of ideals *par excellence* is Ethics ; for Ethics deals with the “ought,” not with the “is,” and urges to the practice of rectitude by its pictures of Virtue, Duty, &c.

There is also, in connexion with Imagination (Representative and Constructive alike) the mental state where the idea of a thing (outward or inward object) is accompanied with belief in the future occurrence or recurrence of that thing. This is the attitude of *Expectation* ; one variety of which implicates *hope* and *desire*, and another implicates *fear* and *aversion*, while a third is *neutral* both as to hope and fear and as to desire and aversion.

Now, to sum up. Besides the Platonic and allied onto-

logical significations, and besides the special application of the term in the vicarious theory of external perception, we have got three distinct psychological meanings to the word Idea :—(1) the exact reproduction of impressions actually experienced (in Memory and in Representative imagination),—the ideal which is the counterpart, but by no means the contrast, of the real ; (2) the concept or generalized notion ; and (3) the mental result of the manipulating and transforming of life's experiences, under the creative imagination, in such a way that the ideal becomes, in whole or in part, contrasted with the real.

It is now too late in the day to suggest a re-baptizing of these three mental products ; but it had been well if things so very different in their nature had early received separate and distinct names. The ideas of Conception (best termed concepts or notions) are *representations*, just as we speak of an ambassador at a foreign Court as representing his nation, but not otherwise : they are not reproductions. They are the Symbolical of Leibnitz, in contrast to the Intuitive,—and the “intuitive” with him includes sense, memory and imagination. The ideas of Memory, on the other hand, are *reproductions*, as reviving something that did once have existence ; and (vividness apart) they exactly represent the original. The ideas of the Imagination are *pictures* ; in the first form of it (the Greek *φαντασία*, Quintilian's *visio*), veritable copies (images, reproductions, likenesses, transcripts, representations) of the real ; in the second or higher form (Imagination proper,—Creative or Constructive), not so.

III. We may next take up Historical and Analytic Definition.

These operations are very well exemplified in such a correlated metaphysical couple as

SUBJECT—OBJECT.

Not many, I presume, will be found at the present day to echo the laudation of Cousin on these two celebrated words, and to recommend their adoption on the ground that they are “so convenient from their conciseness, precision, and force”. It is just because they have ceased to be precise, that they have come to be a bugbear in philosophy; and, while their conciseness indeed remains—nothing can deprive them of that,—their utility and force are sadly cramped by the variety of applications (diverse and different) to which they are put.

In old Scholastic times, the meanings attached to them were intelligible and comparatively unambiguous; it is something quite different to-day. For, while Grammar has its subject and its object in relation to the sentence, and while the subject of a proposition has a distinct signification in Logic,—while, also, subject in ontology is the equivalent of *substrate* or *substance*, that in which qualities inhere (as when it is said, “mind is the subject of all our ideas”),—subject and object as a correlated philosophical couple are prolific of meanings. Add to this, that common language (not to speak of Theology) has usages of its own, and, while subject is taken as synonymous with “person,”*

* A case in point is Cardinal Newman’s statement about Dr. Pusey’s opinion of the tractarian movement, that among its most hopeful

a man's object means his "purpose," "intention," or "design," sometimes his "motive".

No doubt there is high authority for a confused usage here. Aristotle himself was far from consistent. In *Logic*, he employed a distinct term, *ὑποκείμενον*, for the subject of a proposition, and this is very well represented in Latin by *subjectum*, and in English by "subject"; and he called the "opposite" of a proposition *ἀντικείμενον*, which is strictly *objectum* or "object". But, unfortunately, in *Metaphysics*, Aristotle is less precise, and one of the significations of his leading term *οὐσία* is that of the metaphysical *ὑποκείμενον*, which very naturally was translated into Latin by the word *subjectum*. Hence the perplexity and confusion.

And yet, neither Greek nor Latin need have been thus equivocal; both of them were rich enough in terms to express the thing intended; and had Aristotle employed *ὑπόστασις* for his metaphysical substratum, and the Latins represented it uniformly by *substantia*, and had Cicero's word *essentia* (*his* according to Seneca, but Quintilian ascribes it to Flavius) been generally accepted as the equivalent of *οὐσία*,—much after confusion and no little annoyance had thereby been avoided. However, that was not done; and *substantia*, *essentia*, and *subjectum* had each to run its course; and the history of *subjectum* is by no means the least curious of the three.

It is, however, with Subject and Object as a correlated peculiarities was its "stationariness". "He made it," says Newman, "on good faith; it was his subjective view of it,"—by which he means, "This was how he *personally* regarded it".

metaphysical couple that we are here chiefly concerned ; and so the grammatical, the rhetorical, and the other meanings need not further engage our attention.

As thus viewed, Subject and Object stand respectively for the Me and the Not-Me, Self and Not-Self, Ego and Non-Ego. But, in this connexion, the terms are obviously far from unambiguous. For, Subject may be taken simply as the equivalent of Mind. In that case, the Object may be either—(1) Body,—my own body, which is indeed outside my mind, but wherewith, nevertheless, my mind is inseparably united ; or (2) this *plus* whatsoever is external to my body itself (including other egos or intelligences as well as material objects) ; or (3) all this *plus* phenomena of the mind itself, which, although properly mental phenomena, are nevertheless objectified in the act of reflection—what is called a “subject-object”. Or, again, Subject may be taken as standing for the compound human being Mind + Body, or animated organism ; in which case, Object may be either—(1) what is outside the individual organism, or (2) the “subject-object” of the individual mind. Or, lastly, as in the problem of External Perception, we may omit from the Object “other egos or intelligences,” and regard it simply as including the perceptible things of the outer world ; and then Subject is the perceiving mind, and Object is the matter perceived.*

* We must not forget that some philosophers have inverted the meanings of Subject and Object. With Descartes, for instance (in his *Meditations*), it is the *mental* reality (or thing as conceived or thought) that is “objective” ; *actual* reality (the external thing) is “subjective”.

This last is the most frequent use, and is the one that leads to most complications. For, as thus understood, Subject and Object have several well-marked characteristics, and each characteristic gives rise to a separate meaning.

The attributes of the Object are chiefly these:—(1) Externality or outness, recognized through resistance to our locomotive energy; implying also Figure and Size—two aspects of the same thing. This is the main constituent in the plain man's conception of Reality. (2) Permanence, as contradistinguished from what is temporary and fleeting. (3) Independence; the common or universal, in contrast to the special or individual. A distinction that corresponds in great measure to that of Aristotle between the Common and the Proper Sensibles, and that of Locke between the Primary and the Secondary Qualities of Matter. (4) The vivid and obtrusive in consciousness, as opposed to the faint.

The corresponding attributes of the Subject are manifest by comparison with these. Inwardness is one characteristic, implying also the absence of extension; individuality is another; there is also less permanence among mental states than among outward objects, and the faintness here contrasts with the vividness and the obtrusiveness there.*

Now, it is when Object and Subject are used in their adjectival forms that the main difficulties arise; for (1) the adjectives Objective and Subjective bear the meanings special to the various attributes attaching to the respective

* The contrasts have been fully drawn out both by Mr. H. Spencer, in his *Principles of Psychology*, and by Professor Bain, in the third edition of his *Emotions and Will*.

substantives, and (2) they have also senses peculiar to themselves.

(1) An example of the first is the common characterization of the two great divisions of Logic — Formal and Material. Not unfrequently, Formal Logic is denominated “subjective,” while “objective” is the name applied to Material Logic. Why? Because, as is maintained, the one deals with *thought*, the other takes cognizance of *things*. We have here the antithesis of mental and material; just as we have when the Sciences that deal with outward Nature are classed as objective Sciences, while the Sciences of Mind are subjective.

Similarly, in Logic, a “judgment” is distinguished from a “proposition” by the circumstance that the one is the subjective, the other the objective, rendering of the same thing. This is simply the contrast of “outward” and “inward”—of a mental fact and its verbal embodiment.

Again, we have the externality of the Object represented in the psychological contrast between subjective and objective “observation”—the former more commonly termed “introspection”. Both, of course, are in the strictest sense subjective, as both have reference to the observing mind; but we require separate names for the study of mental phenomena as manifested in self and the study of the same (or presumably the same) phenomena as manifested externally by others and as recorded in history. The above distinction is supposed effective for the purpose.

Once more, we find that portion of our mental furniture—of our mental possessions—which lies in the mind unused, but which nevertheless we know to be within our call when

occasion serves, sometimes said to have a subjective existence : when we bring it into clear and distinct consciousness, its existence is then said to be objective. This is the contrast of the faint and the vivid in consciousness ; better expressed by such words as " potential " and " actual ".

A puzzling case is when the same thing is designated (even by the same writer) as both subjective and objective, and when the meanings in each case are entirely different if not actually opposed.

Thus, Kant designates the Categories of the Understanding at one time objective, at another time subjective. Could anything more confusing be conceived ? They are subjective in the sense that they do not come to us " from without, by means of sensation," but proceed from " the spontaneity of the mind itself ". They are objective when we regard them as universal and necessary, as *a priori* notions, products of the intellect,—in contradistinction to sensitivity and feeling, which (in this sense) are subjective.

Again, take Truth. Objective and Subjective as applied to truth either state the contrast of the real and the ideal ; or they stand for " absolute " and " relative," which is only a laconic way of expressing the common and the special ; or they mean—the former of them, truth that rests simply on external authority, that is accepted (say) on a master's *ipse dixit*,—the latter, truth when verified by ourselves, by the individual recipient, and accepted on its own evidence.

This last reminds us of the analogous theological distinction, where objective (or, as it is sometimes called, positive) truth stands for Revelation ; while revealed truth, when it is taken and harmonized, when not only is it formulated or

reduced to a system, but when also its data are brought to the test of the general principles of the human mind as philosophically determined,—is designated subjective.

Again, in Ethics, subjective and objective are applied to rightness. An action is subjectively right on one of two grounds, or it may be on both of them :—(1) When the agent is actuated by a sole regard to duty, (2) when his action is done in the belief that it is right. Objective rightness, on the other hand, goes beyond this, and supposes further that there is something absolutely right in itself to be done,—something independent of the bare belief of the agent, and not determined simply by the circumstance that he *chose* it.

(2) In some of these examples, we have gone far towards showing that not only many different, but also several incongruous, meanings attach to subjective and objective. But the proof will be complete if we adduce a purely incongruous usage.

A case in point is found in Hamilton. In his Note D*** (*Reid's Works*, p. 911), "on the theory of Mental Reproduction," he gives an explication of the Law of Relativity or Integration, and his explication runs thus :—One thought may implicate another without determining it to succeed. In that case, the train of thought is logical or *objective*, also called intrinsic. We find it so, for example, in *correlated couples* ; light—dark, up—down, life—death. Neither term of the couple means anything apart from its opposite,—the thought of both is given in the thought of each ; and yet the thought of the opposite is not determined by the thought of the other. But, again, one thought may succeed another

according to the laws of mental association. In that case, the consecution is psychological or *subjective*, also called extrinsic.

Plainly, we have here "subjective" and "objective" far away from their proper applications, and nothing is gained by thus employing them. It only makes confusion more confounded when "*objective*" is identified (as here) with "*intrinsic*," and "*subjective*" with "*extrinsic*".

Other examples of a similar kind might be adduced from Hamilton: and indeed Hamilton's writings are the great repertory of uses—both obsolete and accepted, both legitimate and abusive.

In the face of all this vacillating and conflicting usage, what can be done? Only one thing can be done, in order to be effective:—Study the analysis of the notions Subject and Object, and let this analysis rigorously guide the use of the substantives and of their corresponding adjectives. The multiplication of meanings here transgresses all the rules of "synthetic definition" laid down in the first chapter. And so:—Forbid incongruous senses, and refuse to countenance the employment of these much abused terms where there already exist other words, free from their misleading ambiguity, and capable of expressing the thing intended.

IV. A frequent combination of methods is Discrimination and Analysis, with or without Criticism.

It is seen in the case of such ethical terms as Happiness and Sympathy.

I. HAPPINESS.

Happiness is one of three words used in Ethics as expressive of the final end of man, each with its own special signification, notwithstanding it has been the tendency among certain writers to use them as synonymous. These three words are—Pleasure, Happiness, and Blessedness.

To borrow a phrase of Ferrier's, Pleasure is the name for "sensational enjoyment," and for this alone. No doubt it implies the exercise of intellect or reason, no doubt it is agreeable sensation under the direction of prudence and prudential regards, governed by the principle "nothing in excess,"—yet, it never is itself anything more than pleasure of sense, personal and egoistic, self-contained and exclusive. For, even granting that in the effort to achieve Pleasure, we must have respect to the feelings and the interests of others, nevertheless this respect is always dictated by the consideration of our own ultimate gratification; so that the disinterested and altruistic aspect that our conduct assumes always resolves itself into one form or other of self-regard.

From this, however, it does not follow that Pleasure is the low, base, despicable thing that many would insinuate. *Sensational* enjoyment is neither identical with *sensual* enjoyment, nor with enjoyment *in excess*. On the contrary, it forbids excess and counsels moderation. A cheap victory has often been gained over the Hedonistic philosophy by representing it as setting forth sensuality as the moral standard, and as thereby teaching immorality and vice. There is nothing in itself immoral in the pursuit of the *suavitas* and avoidance of *asperitas*,—pleasure is not of

necessity "the bait of crime"; and it is very doubtful whether any Epicurus ever preached a doctrine against which many of the popular arguments against Epicureanism (from Cicero downwards) would be in any way conclusive. The worst that can be said of Hedonism is, that he who places Pleasure as the *summum bonum* regards man simply as a being governed by Sense; and, regarding him thus, confines the range of his susceptibilities, making the individual centre in himself.

Over against this, let us place the second of the above terms. As compared with Pleasure, Happiness takes a much wider sweep, and is itself a far more complex affair. It does not confine itself to mere sensational enjoyment, but includes all kinds of enjoyment, and is no less altruistic than it is egoistic. Many human elements now come into play. Man is conceived, even as an individual, to have many sources of delight within himself, and the ruling principle is not merely prudence, but Reason in its highest and more commanding modifications. Even as an individual, he has intellect and the "*mens sibi conscia recti*"; and, when he is viewed as a social being or member of society, a vast extension is given to his sympathies; fresh fields are opened up for his activities and energies, and new inlets are supplied of wholesome life and inspiration. He now lives two lives, and both of them in unison. For himself he lives, and he lives for others; and the flow of life is felt to be freest and fullest when the first of these lives, without being destroyed, is merged in the second. This is the true endæmonistic paradox, that we live most for ourselves when we live most for others.

Let us see, then, the characteristics of this Happiness. They are many; but the chief of them may be summed up under several heads :—

(1) It is both egoistic and altruistic; its completeness is impossible in the absence of either. (2) It does not despise sensational enjoyment, yet it refuses to rest in it; it will not allow mere pleasure to be more than one current in the complex flow of felicitous existence. (3) It is a different thing from the mere possession of external advantages; for, although indeed affected by outward circumstances and conditions, it is by no means wholly dependent on them; on the contrary, it can (within certain limits) rise superior to adversity and untoward environment, and can over-balance the discomforts of the body by the pleasures and resources of the mind. (4) Nevertheless, health of body (consequently, absence of disease and sickness) is a main consideration, and, *cæteris paribus*, counts for much.* (5) It is dependent also on intellectual enlightenment and education; for not, in this connexion, can it be said that "ignorance is bliss". (6) One great element in its composition is the ethical or moral element; it is bound up in

* Aristotle, in the *Nicomachean Ethics*, Bk. VIII., says :—"All men suppose that the happy life is a pleasant one, and that happiness involves pleasure; and the supposition is reasonable; for no exercise of a faculty is complete if it be impeded; but happiness we reckon among complete things; and so, if he is to be happy, a man must have the goods of the body and external goods and good fortune, in order that the exercise of his faculties may not be impeded. And those who say that though a man be put to the rack and overwhelmed by misfortune, he is happy if only he be good, whether they know it or not, talk nonsense" (Peters' transl.).

the matter of a good Conscience and the absence of Remorse. (7) Benevolence, or the play of the disinterested affections, is another very prominent feature in it ; Adam Smith goes the length of saying that "the chief part of human happiness" arises thence. (8) Duration is implied in the very idea of it ; for, as Aristotle says (*Nic. Eth.*, Bk. I.), "if one swallow or one fine day does not make a spring, neither does one day or any small space of time make a blessed or happy man," whereas, on the other hand, Pleasure is complete at any moment (*Nic. Eth.*, Bk. X.), being "something whole and entire, and it would be impossible at any moment to find a pleasure which would become complete by lasting longer": "it demands," says Mark Pattison, "a full and completely developed term of existence". (9) It is stimulated, fanned, and fed by ideals.

Now, as distinct from this, what is Blessedness? The differentia I take to be that, to the above elements, Blessedness adds Religion.* The word is the English equivalent of the Latin *beatitas* or *beatitudo*, and bears precisely the

* Of course, the exclusion of Religion from Happiness is proper only if we strictly discriminate between Happiness and Blessedness ; just as it is only proper to confine Pleasure to Egoism and Sense when (as above) we strictly discriminate between Hedonism and Eudaemonism. Regard Happiness and Blessedness as synonyms, and then the Happiness-Philosophers must be divided into two classes—(1) those who reject, and (2) those who accept, the Religious sanctions ; and to the second class must be referred such names as Shaftesbury, Hutcheson, Paley, the Benevolence-Philosophers of the old school, and a section of the Utilitarians of the present day. Nor need we consider the distinction, that Happiness is the joy of receiving and Blessedness the joy of giving. This, however convenient for rhetorical purposes, has no utility in Ethics.

same theistic connotation. *Beatitas* and *beatitudo*, as we know, were terms coined by Cicero (see *De Nat. Deor.*, I. 34), and they were both introduced for the purpose of expressing what no other Latin word could properly do—the felicity and unsurpassed *μακαρία* of the gods, viewed in the light of their immortality; and, when they came to be applied to man, they denoted the fact of his felicity taken in connexion with his heaven-born nature and immortality. So too, I take it, with the English “blessedness”. Adopted into Ethics, it is meant to express that man is above all things a religious being, and destined for a never-ending future,—that he is not simply intellectual and moral, but also *spiritual*; and those who accept it thereby indicate that they subordinate Ethics to Religion (not, of course, necessarily the *Christian* Religion), and their position assumes the two fundamental doctrines of Natural Theology —“that God is, and that He is the rewarder of them that diligently seek Him”. Their standpoint is precisely that of St. Anselm in the *Cur Deus Homo* (Bk. II., c. i.), where he maintains that “man was created righteous that he might be blessed with the enjoyment of God (ut Deo fruendo beatus esset)”; or that of the Westminster Divines when they tell us that “man’s chief end is to glorify God and to enjoy Him for ever”; or that of Carlyle in the magnificent passage of the *Sartor Resartus* (“The Everlasting Yea”: Bk. II., c. ix.), which perhaps will bear quoting once more. “There is in man,” says he, “a Higher than love of Happiness: he can do without happiness, and instead thereof find Blessedness! Was it not to preach forth this Higher that sages and martyrs, the Poet and the Priest, in all times,

have spoken and suffered ; bearing testimony, through life and through death, of the Godlike that is in Man, and how in the Godlike only has he Strength and Freedom ? Which God-inspired Doctrine art thou also honoured to be taught ; O heavens ! and broken with manifold merciful Afflictions, even until thou become contrite and learn it ! O, thank thy Destiny for these ; thankfully bear what yet remain : thou hadst need of them ; the Self in thee needed to be annihilated. By benignant fever-paroxysms is Life rooting out the deep-seated chronic Disease, and triumphs over Death. On the roaring billows of Time thou art not engulfed but borne aloft into the azure of Eternity. Love not Pleasure ; love God. This is the Everlasting Yea, wherein all contradiction is solved : wherein whoso walks and works, it is well with him."

These three words, then (Pleasure, Happiness, and Blessedness), when used of the ultimate ethical end, may be easily enough discriminated. Each of them implies that the End is some species of enjoyment, satisfaction, or gratification ; and, in this aspect of it, the things they represent differ only in degree. They rise in an ascending scale, the second comprehending the first, and the third including the first and the second both. But they differ also in complexity and in continuance or duration. And, again, whereas Pleasure in its own nature is egoistic and exclusive, and implies in man simply the existence of Sense (together with the opportunities and means of exercising it) guided by Prudence,—Happiness adds Reason in its higher forms, and the element of Conscience ; while, in order to Blessed-

ness, there is needed, over and above, a righteous character (righteous in the sense of the mediæval *justitia*), and the apprehension of God as man's author and final resting-place or end.*

If now we ask the difference between Happiness regarded as the ultimate ethical end and Virtue as so regarded, we shall find the answer to be as follows :—

First : those who accept Virtue acknowledge two principles of man's nature, an egoistic and an altruistic (self-love and benevolence, as they had used to be called), but give the chief or leading place to the second,—a virtuous disposition being to them the highest state conceivable for man ; while those who accept Happiness acknowledge the same two principles, but give a greater prominence than the others to self-love or egoism. The latter maintain that every man shall count for one and no man for more than one ; the former hold that a man should not even count for one *with regard to himself or in his own estimation*, but “let

* As Blessedness has pre-eminently *theistic* implications, it is instructive to observe that the words “happiness” and “happy” (εὐδαιμονία and εὐδαίμων) never once occur in the New Testament. Instead of them, we find such terms as—“blessed,” “life,” “joy,” “peace” (μακάριος, ζωή, χαρά, εἰρήνη, ἀνάπαυσις or σαββατισμός). “Pleasure” (ἡδονή) is rarely used, and, when it does occur, it is chiefly in the sense of sinful or forbidden pleasure. In this, the New Testament mostly follows the Septuagint, which carefully avoids ἡδονή, and renders such a phrase as that of Psalms xvi. 11—“at Thy right hand are pleasures for evermore”—by *τερπνότητες ἐν τῇ δεξιᾷ σου εἰς τέλος*. The Septuagint is not, however, so fastidious about the word *τρυφή* (a more objectionable term than ἡδονή), for, in Ps. xxxvi. 8, it translates, “Thou shalt make them drink of the river of Thy pleasures” by *τὸν χεῖμάρρουν τῆς τρυφῆς σου ποτιεῖς αὐτοὺς*.

each esteem other better than themselves". *Secondly* : the upholders of Virtue do not despise Happiness,—on the contrary, they make their count with it ; but they maintain that Happiness is not to be measured quantitatively so much as qualitatively,—the chief test is kind, not mass : the upholders of Happiness take the opposite position. The great test, say they, is mass not quality, and Virtue is of value only as it goes to swell the sum of human felicity or enjoyment. "The *highest* happiness" is the motto of the one ; "the *greatest* happiness" that of the other. *Thirdly* : as a corollary from this, it follows that the spheres of the two are not identical. Happiness is much wider than Virtue, including many elements (such as, physical health, intellectual enjoyment, &c.), which are strictly non-virtuous, or which do not rise to the height of virtue, except on rare and special occasions.

Besides Happiness and Virtue, there are two other words, it may be remarked before concluding, that are often given as expressive of the ultimate ethical end ; but neither of them is at all suitable for the purpose. These are Well-being (including well-doing, εὖ ζῆν) and Perfection. It is the custom at present to appropriate Well-being to the Happiness end, while Perfection affiliates itself with Virtue. But, plainly, Well-being is a word as capable of expressing Virtue as of expressing Happiness ; while the Utilitarian, equally with the Intuitionist, may claim Perfection as his end. There is nothing distinctive either in Well-being or in Perfection : and, if attempts are sometimes made to erect Perfection into an end different from both Virtue and

Happiness, they cannot be pronounced in any way successful. A perfection that is neither one nor the other is inconceivable.

2. SYMPATHY.

The group in which Sympathy occurs, and from the other members of which it has to be discriminated, includes the following :—*Sympathy, Compassion, Generosity, Friendship, and Gratitude.*

Of these, Sympathy, Compassion, and Friendship all agree in this, that they belong to the social or extra-regarding side of our nature ; they take us out of ourselves, and are essentially altruistic. So long as I conceive myself simply as an individual, apart from or unrelated to others,—I am the subject of certain pleasant and of certain painful emotions ; but neither can the one with any propriety be called either sympathy or friendship, nor can the other be denominated compassion. But introduce the conception of disinterestedness, sociality, or benevolence, and these complex emotions instantly emerge. All three indeed presuppose the personal or self-regarding affections, and could not exist without them ; but they involve also a certain sensibility to the pleasures and the pains of others,—to their circumstances, interests, and conditions in life : they draw us out of ourselves and imply relations to those around us.

Discriminated, they stand thus :—Sympathy (*συμπάθεια*, Latin *humanitas*) is properly fellow-feeling with other sentient beings, and is so far an identifying of ourselves with them as that we rejoice with them in their joy and weep with them in their sorrow,—in other words, we share our

brother's bliss and we help him to bear his burden.* It reposes, therefore, on imagination—on the power of representing to oneself the circumstances and situation of others ; but it implies also the ability to enter into them and to make them our own : and in proportion to the strength of the imaginative faculty and of this ability, is the intensity of the sympathetic emotion. Compassion (the exact etymological equivalent in Ecclesiastical Latin of the Greek *συμπάθεια*), in like manner, is dependent on the sympathetic imagination, and is indeed the same disposition as sympathy,—only it is confined to cases of pain and suffering, and, of these, to such particularly as bear the character of *the distressing*. The notion of *relief*, too, comes prominently forward here. It is tender-heartedness, prompting to active help, and is well expressed in New Testament Greek by *εὐσπλαγχνος*. Pity, again, is strictly synonymous with Compassion, but, in ordinary parlance, we speak of a pity that is akin to contempt,—in which case we mean, not compassion, but a mild kind, or it may be a refined kind, of malevolence.

It would hardly be necessary to remark that Sympathy is by no means identical with “moral approbation,” nor does it necessarily give rise to it,—were it not for the theory of Adam Smith, and for the fact of vulgar usage.

* If it meant simply the power of realizing the circumstances or condition of another, then one might quite readily agree with Mr. Leslie Stephen when he argues (in *The Science of Ethics*, C. VI., pp. 228-39), that it is not necessarily altruistic but only the essential condition of altruism, and that it may give rise to antipathy and jealousy no less than to humanity and disinterested regard. But this is a stretch of meaning, which cannot be approved of ; and Sympathy means both the power (of realizing) referred to, and the resulting fellow-feeling.

When I say that "I sympathize with a movement," I am usually understood to mean that I *approve* of it ; and Smith maintains that moral approbation is the uniform consequent and effect of sympathy. But surely there are many things wherewith we sympathize of which nevertheless we cannot be correctly said to approve. I sympathize, for instance, with a man in the humiliating position into which he has brought himself by his own misconduct, although I thoroughly approve of the humiliation as a just and right reward. Our sympathies, again, go forth to the convicted felon even at the moment that we most strenuously acknowledge the justice and propriety of his fate. And in a general way, we may say that, whenever we perceive the right and acquiesce but pursue the wrong, we give proof that sympathy is one thing and approbation another, and that they need not by any means be connected as cause and consequent. True, indeed, the two in many cases go hand in hand ; to sympathize is to approve, and to approve is to sympathize. Yea, one may even admit that the tendency of strong sympathy is to bring us to approve of the object sympathized with (as is seen, *inter alia*, in our proneness to find excuses for the faults and wrongdoings of our friends) ; but that is quite a different thing from saying that the two are identical, or that even the one is the necessary result of the other.

Neither is Sympathy the same thing as Generosity. Both indeed are altruistic, and both are "amiable" virtues ; but the generous disposition is essentially liberal ; it delights in remitting debts and conferring benefits ; and the sentiment it produces in the recipient is thankfulness or gratitude.

What, then, of Friendship? It is, like the others, a species of kindly and benevolent feeling, issuing in beneficence; but it further implies mutual confidence between the friendly parties, community of likings, character and disposition, and the absence of suspicion or distrust. It is a sort of musical harmony,—the vibrating of chords in unison; and is founded neither on the perception of a friend's intrinsic worth or virtue, nor on a regard to one's own pleasure or advantage (assistance, protection, profit, &c.); but solely and simply on community of disposition, sentiments, and likings (according to the principle of "like to like, and all things love their own similitude"), and the fact of mutuality or reciprocity. For, if the origin of friendship were the perception of virtue in our friends, then it would follow (as Laelius in the *De Amicitia* insists) that the good only can be friends; whereas we find, as matter of every-day experience, that friendships of the warmest and closest kind often exist between the lawless and the bad. Aristotle, indeed, in the *Nicomachean Ethics* (Bk. VIII.), denies that the bad can be friends; but then he grounds it on the principle (disputable enough surely) that "bad men take no delight in each other unless some advantage is to be gained". The whole reposes on the paradox (Bk. IX.) that "he who is not good has no friendly feelings even for himself, as there is nothing lovable in him".

If, on the other hand, personal advantage were the sole origin of friendship, there could be no friendship on the part of the higher and more favoured of the race towards the lower and less independent, but only *vice versa*. Moreover, friendship could never be disturbed except where the

interests of parties conflicted ; whereas we know that other causes than conflicting interests may produce estrangements and snap the cementing bond,—such as, disparity of temperament, want of harmony in the principles (say, political or religious) accepted, disagreement as to the ends to be pursued. Further, we may say with Aristotle, that “the friendship whose motive is utility is the friendship of sordid souls”.

Perfect friendship, then, may be defined as is done by Cicero (*Laelius VI.*), viz.—as “perfect concurrence in all subjects, accompanied with benevolence and attachment” (*amicitia nihil aliud nisi omnium divinarum humanarumque rerum cum benevolentia et caritate summa consensio*); and just as this concurrence approaches to or recedes from perfection, to that extent is friendship entire or maimed, stable or insecure.

If now we ask what differences mark off friendship from sympathy, we find that they are these :—

First : friendship supposes that the regard and tender affection implied in the relationship are mutual : not so sympathy, or (to include Compassion also) let us say, not so fellow-feeling. *Secondly* : the range of fellow-feeling is wider than that of friendship. Community of nature (*homo sum*), or even sharing in the same sensitive organism, is sufficient to arouse our sympathy or to draw forth our compassion. The brute creation, equally with the human race, affect us here. But, for friendship (properly so called), there is needed more than a common sensitive experience ; there are needed also similarity of taste, temperament, character, cast of thought,—in other words, there is needed the *similis*

animus or "congenial mind".* A friend is, almost without a figure, an *alter idem*, a second self. *Thirdly* : our fellow-feeling (if it is not simply a passing impulse) is fanned or weakened according to the conception we entertain of the character of the object on whom it is bestowed : it is weakened, though not annihilated, by the knowledge that his sufferings are deserved, such as he himself is justly blamed for ; it is fanned, though not created, by the knowledge that they have not been induced by his own reprehensible and faulty conduct. Friendship, on the other hand, is not so dependent on our knowledge or conception of a friend's character as this. It rests on the fact that he possesses qualities attractive to ourselves, and on the experience and belief that the affection or attachment on our part is reciprocated. Hence the force of the Proverb :—"a friend loveth at all times, and a brother is born for adversity".

From Friendship is to be distinguished Gratitude ; for gratitude is sometimes conceived as a species of friendship or, at any rate, as its result. But with equal reason might it be denominated a species or result of sympathy, of compassion, or of generosity ; for each of these is capable of producing it,—as much so as friendship. Gratitude, strictly, arises from benefits received—no matter what the motive from which they emanate ; and leads to attachment to the benefactor, and to a willingness to serve or to oblige him, when occasion offers. It is, therefore, essentially an

* I cannot, of course, admit that there is implied also equality of social rank or condition. It is a one-sided and mistaken view to say,—“friendship is the daughter of equality ; it is never born of inequality”. This is the fallacy of the Socialists.

attitude of indebtedness, obligation, or dependence. The relation of superior and inferior, of obliger and obliged (however skilfully disguised), always obtains here. There is no such relation in friendship; or, rather, this is not a relation that is of the essence of friendship, but merely an adjunct.

CHAPTER VII.

PHILOSOPHICAL VOCABULARY—(*Continued*).

V. **I**N continuing the subject of combined Methods of defining, I next take up Historical and Critical definition, accompanied with Antithesis, and aided by Etymology.

An admirable instance, from psychology, is

INTUITION.

Intuition, like most other words of a similar formation, stands for one or other of three things—for a power, for an act, for a product. Sometimes, indeed, the product has been denominated “a singular concept” (in contradistinction to a *common* concept or *notion*), and sometimes an “idea of the individual”. But all concepts are, properly speaking, general or common—they have reference, that is, to classes or types; and the word Idea (as we have already seen) has been put to so many diverse uses that we are unwilling to accept it in any connexion where it can possibly be dispensed with. Better, then, leave the term in its threefold application than thus introduce further ambiguity and looseness: all the more so, as the ambiguity in any case is not very great, and we have the phrase “intui-

tive knowledge" to designate (where need is) the product, while the verbs *intuit* and *envisage* (neither of them, perhaps, very euphonious) can be brought into requisition for the act.

The primary signification of the word follows the etymology. Intuition literally means *seeing through the eye, visual perception*: and, if we draw a distinction between *intueor* in classical usage and its nearest synonyms *contueor*, *aspicio*, etc., we should say that in *intueor** is implied *intentness* of observation, rather than bare seeing; and the English equivalents are—*view, gaze, look at, grasp, take in*. Accordingly, we find that *intueor* does not properly translate ὁράω, θεάομαι, βλέπω, etc., but rather such Greek words as ἐμβλέπω, ἀτενίζω, etc. Visual perception, in like manner, attaches to *intueor*, the verb, when first adopted into philosophy; and it is prominent in the substantives *intuitus* and *intuitio*.† There is this difference, however, that *immediate presence* of the object is now the central fact, rather than *intentness* of observation, and the antithesis or contrast is to the visionary and the representative in imagination and in memory. Referring to *dreams*, Boëthius says (*De Consolatione Philosophiae*, Lib. III., pr. 1)—“ad veram, inquit,

* The simple verb *tueor*, in the sense of *look at*, is mainly, if not solely, poetical: its prose signification is in the metaphorical sense of *defend, protect*—hence the adj. *tutus, safe*. On the other hand, *intueor* is scarcely found in the poets at all. It is very rare in Horace; it is not used by Virgil; except in *imesi*, it seems unknown to Lucretius.

† Both *intuitus* and *intuitio*, as well as the adjective *intuitivus*, are non-classical. The last two are scholastic, and the first remounts at any rate to Boëthius.

felicitatem, quam tuus quoque somniat animus : sed occupato ad imagines visu, ipsam illam non potes intueri ”.

If, then, we ask at this stage what Intuition is, we obtain as answer:—The apprehension or discerning of a thing actually present to the eye ; and it is distinguished, on the one hand, from the revival of that thing in memory or its copy in imagination, and, on the other hand, from the representations of dream-sleep and of the waking fancy.

But, in current philosophy, is there not something more, and something different, implied ? When the problem of the external world is in view, no doubt there is. Intuition is then used to denote an *immediate* perception of the external object seen, and the antithesis now is to the “idea” interposed between the percipient and the perceived—the perceived being no longer absent as in memory, or unreal as in fancy, but actual and present, yet beyond the sphere of consciousness ; or, if the non-Ego be regarded as a modification of the Ego, this modification becomes itself the intervening representation—it *suggests* the non-Ego. We have here the contrast denominated by Hamilton presentative and representative ; and its characteristics may be seen fully drawn out by him in *Reid's Works*, Note B.

There is but a step between *visual* perception and sense-perception in general. And so, intuition is not unfrequently applied to the immediate perception of the external, through whatever sense it comes,—whether through the eye, the muscular sense, the locomotive faculty, or touch. It was thus an appeal to intuition when Dr. Johnson offered his well-known and characteristic refutation of Berkeley ; and a

similar refutation has been offered repeatedly since Johnson's day.

Thus far, *external* perception. But perception is also *internal*; and we are said to intuit mental phenomena and mental facts, as well as external objects. In this way, immediate knowledge of present affections of the conscious subject is sometimes (though very abusively) said to be intuitive—such, for instance, as my consciousness at any particular moment that I am hot or cold, hungry or sated, pained or pleased: to which may be added perception of the Secondary qualities of matter generally, in which sense the elder Pliny frequently uses the word *intellectus*.

Again, Leibnitz has distinguished between *intuitive* knowledge and *symbolical* knowledge. The latter is knowledge through the concept; and the concept—being the common, the general, the universal—is neither an object of sense nor picturable in the imagination; it is obtained by comparison of individuals and abstraction, and is fixed in a sign or symbol. The former is concerned with what is immediately presented to sense, or what is pictured in the imagination, and its object is always a singular or individual. In this connexion, we have further to observe the distinction between the clear and the distinct among concepts. "A concept is *clear*, when the degree of consciousness is such as enables us to distinguish it as a whole from others *distinct*, when the degree of consciousness is such as enables us to discriminate from each other the several characters or constituent parts of which the concept is the sum." This is the complement of the Cartesian doctrine

of the criterion of truth ; but the distinction itself, partially grasped, may be traced far back in philosophy.

A reference must here be made to Kant. In the Kantian system, every individual perception is an intuition, and the two universal conditions of intuition (the two forms of the sensibility) are space and time. This in German is *Anschauung*, and the definition is well given by Mansel in his *Prolegomena Logica* (p. 9 n.):—"The word *Intuition* is used in the extent of the German *Anschauung*, to include all the products of the perceptive (external or internal) and imaginative faculties ; every act of consciousness, in short, of which the immediate object is an *individual*, thing, state, or act of mind, presented under the condition of distinct existence in space or time".

Once more, in mystical philosophies, Intuition takes a high and transcendent flight. It is now the immediate apprehension of the Absolute or Unconditioned ; and, as such, is sometimes marked off by a qualifying epithet—as in the "Rational" or "Intellectual" Intuition of Jacobi and Schelling. This is, of course, an entirely different affair from the "Faith" of Christians. The Christian *πίστις*, although sometimes designated intuitive,* is not pantheistic, even when it assumes the form (in the epistle

* Thus, Wordsworth (*Excursion*, VI.) says,—“One in whom persuasion and belief Had ripened into faith, and faith become A passionate intuition”. And the proper rendering of the famous definition of Faith in the opening verse of *Hebrews*, c. xi., is this:—“Faith is the substrate (*ὑπόστασις*) of things hoped for, the *intuition* (*ἐλεγχος*) of things not seen”.

to the Hebrews)—τὸν γὰρ ἀόρατον ὡς ὁρῶν ἐκαρτέρησε, “for he endured, as seeing Him who is invisible”.

Now, looking back upon all these uses, what is it (let us ask) that they have in common? Omitting the last of them (which is peculiar), they all imply an act of attention, they all deal with the singular or individual, they all regard the knowledge derivable from intuition to be direct, immediate, or presentative, and so, beyond the reach of doubt or question.

But the uses are not yet exhausted. On the contrary, there is an application of the word to principles, and a special signification is given to it in Ethics.

In Ethics, intuition means the direct perception of the *qualities* or properties of actions—such as, their rightness or wrongness, their virtue or vice, their merit or demerit, their moral turpitude or moral beauty. This is, obviously, different both from the immediate apprehension of an external object and from the immediate perception of a mental state or fact. It is different also from intuition applied to *principles* or judgments. As *thus* applied, the word has reference to certain self-evident propositions (for a proposition and a judgment are only different aspects of the same thing, and a principle is simply a special kind of proposition), and these propositions are found alike in mathematics, in metaphysics and in ethics—such as, the axioms of geometry, the principle of causality, the maxims* of the

* Using the word Maxim, of course, in its English, not in its Kantian, acceptation. In Ethics, Kant distinguished between a “maxim” and a “law”. A maxim he regarded as having only subjective validity, *i.e.*, as holding simply for the individual; while he regarded a law as

conscience. Intuition is now more especially identified with Common Sense, otherwise denominated Reason; and the principles thus vouched for have been termed indifferently (though not without protest from some quarters)—“first,” “ultimate,” “primary,” “innate,” “*a priori*,” “instinctive”. Reason here, however, must not be confounded with the intellectual (or mediatizing) operation of that name, but must be taken as the equivalent of the Greek *νοῦς* and Kantian *Vernunft*, also of St. Augustine’s *Ratio*, which is thus defined—“quidam mentis aspectus, quo, per seipsam non per corpus, verum intuetur”. It was by taking it in its mediatizing signification that Reid was led (in the *Inquiry*) to represent Common Sense and Reason as at feud, and to speak of them as needing to be reconciled, and even, in one place, to emphatically oppose the two, and with questionable taste (apart from the questionable philosophy) to affirm,—“Methinks, therefore, it were better to make a virtue of necessity; and since we cannot get rid of the vulgar notion and belief of an external world, to reconcile our reason to it as well as we can; for if Reason should stomach and fret ever so much at this yoke, she cannot throw it off; if she will not be the servant of Common Sense, she needs must be her slave” (*Works*, p. 127 b).

As thus regarded, an intuitive principle, or (to express it

objectively valid, as holding for all intelligences. Hence, a law alone *commands*, and is called, on that account, an “imperative”: it enjoins “thou shalt” or “thou oughtest”. Again, we may *approve* or *like* a maxim: a law alone we *venerate* or *reverence*, inasmuch as it is a law alone that has dignity or inward worth attaching to it, a maxim having only *price* or marketable value.

fully) a principle the truth of which is intuitively apprehended, is one that is self-evident or unsusceptible of proof, and, therefore, irresistible or absolutely convincing; in other words, it commands assent,—we acquiesce in the truth of it instantly, instinctively, without the slightest doubt or hesitation. Brown defines it (*Lectures XIII.*)—"a primary proposition, which we admit from the evidence contained in itself, or, to speak more accurately, which we believe from the mere impossibility of disbelieving it"; and an "immediate" or "intuitive belief" he regards as a "direct belief," in opposition to, and in contradistinction from, "the indirect belief which attends the result of reasoning". Of course, Brown's language is not very philosophical or precise here, and special exception may be taken to the phrase "intuitive belief";* for intuition (we shall be told) is immediate, and belief is mediate, so that the phrase is really a contradiction in terms. But the meaning is perfectly intelligible if we take the phrase as elliptical (which in truth it is), and then "intuitive belief" means belief that is the necessary and inevitable result of an intuition.

* This form of expression was very common with a certain class of writers in Brown's day and (much earlier) in the days of Reid, *etc.* Thus, to take an instance, almost at random, Lord Kames, in his *Elements of Criticism*, speaks of an "intuitive" or "innate conviction" of the veracity of the senses. Hume's phrase (see *Section XII.* of the *Enquiry concerning Human Understanding*) is "a universal or primary opinion," resulting from "a natural instinct or prepossession"; but, whereas with Kames, the natural conviction is trustworthy and conclusive, with Hume it needs to be corrected, and is not unfrequently "soon destroyed by the slightest philosophy". Reid speaks of "instinctive beliefs," and his phraseology is defended by Hamilton, though Hamilton himself prefers the wording "primary beliefs".

What, then, as applicable to objects, qualities, and principles, respectively, is Intuition? In the case of *objects*, there is always a singular or individual (mental conscious state or outward existence), and it is immediately perceived or apprehended. In the case of *qualities* (ethical), there is not a singular or individual, but the perception is immediate or direct. The individual, in like manner, is wanting in the case of *principles*, but there is still immediacy of apprehension or perception. In *all* cases alike, there is, or is maintained to be, subsequent or concurrent assent, conviction, or belief.*

The points of community are sometimes expressed in the form of criteria or tests; and the tests commonly adduced are three. Thus (*cf.* Brown, *ut supra*):—an intuition is *universal*, *immediate*, and *irresistible*. Let us examine these tests, and try, if possible, to ascertain their validity.

Universal, strictly speaking, means—*not admitting of exception*. A generic mark, for instance, is said to be universal, because it applies to every one of the species belonging to the genus; and it is in this sense that

* A very convenient, although not a thoroughly logical, way of classifying intuitions would be this:—sensible, intellectual, moral, and religious. *Sensible* intuition is the sense-perception of an individual object, or its reproduction or representation in memory and in imagination. The immediate perception of the truth of principles or general maxims (axioms, rules, or propositions)—whether mathematical, metaphysical, ethical, or what not—is *intellectual*. *Moral* intuition might be confined to the intuition of the ethical qualities of actions,—their rightness and wrongness, *etc.* And intuition of God and of Divine objects is *religious* intuition. All such so-called intuitions as are merely *convictions* or *beliefs* (such as personal identity, the uniformity of Nature, &c.) are here excluded, as they ought in all propriety to be.

Hamilton would seem to demand universality, when he lays it down as a criterion of Common Sense (*Reid's Works*, p. 754 *b*). "When a belief," he says, "is necessary it is, *eo ipso*, universal; and that a belief is universal, is a certain index that it must be necessary. To prove the necessity, the universality must, however, be absolute; for a relative universality indicates no more than custom and education, howbeit the subjects themselves may deem that they follow only the dictates of nature." But universality of this kind is, obviously, out of the question: it does not exist, and it could not be ascertained with absolute strictness, even supposing it did exist. The most that we can hope for is "*general* consent"; and we all know that the worthlessness or worth of general consent depends very much upon the kind or character of the excluded dissentients: truth often lies with the minority; Carlyle says, it *begins* there. General consent is at best only of *supplementary* value, it has not independent force; it is useful for *confirmation*, but cannot, standing by itself, *establish*. Moreover, the test needs to be applied *polemically*. Velleius so applied it in the *De Natura Deorum* (I. 17), for the purpose of proving the existence, the felicity, and the immortality of *the gods*: "*de quo*," he says, "*omnium natura consentit, id verum esse necesse est. Esse igitur deos confitendum est. . . . hanc igitur habemus, ut deos beatos et immortales putemus.*" But this very fact that the criterion needs to be wielded in a polemical fashion, is itself sufficient testimony that it is not absolutely convincing or weighted to the extent desired.

Much the same may be said of the third criterion—*irresistibility*. This is the counterpart of self-evidence; or,

rather, it is the effect, of which self-evidence is the assumed cause. But the cause here is simply inferred, it is known only in its result ; and, as more than one cause might produce this same result, self-evidence as generating conviction is not the power it might at first appear to be. As is well known, many beliefs are irresistible owing to "natural prejudice," others are due to education, others spring from habit, others still from tradition or deference to authority ; and it should never be forgotten that cases of so-called intuitions—long cherished, accepted for ages as such—have been proved to be "illusions". Moreover, irresistibility attaches to inferences as much as to intuitions, and we are as certain of the conclusion drawn from premisses rightly constructed as we are of the truth of any principle or proposition whatever.

The only test that is really of paramount importance, and that is applicable alike to principles, qualities, and objects, is the second of the foregoing three, *viz.*, *immediacy* ; and, as immediacy is of two kinds, the test itself is of two degrees, or admits of a twofold application. Immediacy means either (1) directness or independence—independence, that is, of an intervening term or of a *tertium quid*,—in which case it is opposed to what is mediate or indirect ; or (2) it has reference to *time*,—in which case it is the same thing as immediateness, instantaneousness, rapidity—including in it also facility or ease.

In the first of these applications of immediacy, Intuition is commonly contrasted with Thought. Now, what is the meaning of this famous antithesis ?

Thought is an ambiguous term. In its widest acceptance (omitting the Cartesian sense, which identifies it with Consciousness in general), it includes Perception, Conception, Memory, Imagination, Judgment, and Reasoning ; in other words, is identical with the operations that are now-a-days classed under the head of Intellect, and covers one whole department of Mind (the other two departments being Will and Feeling). In its narrower sense, it covers three only of the intellectual functions above enumerated, *viz.*, Conception, Judgment, and Reasoning. It is in this narrower sense that it must be here understood. Perception, Memory, and Imagination are all alike regarded as coming under Intuition ; for, although the image in Imagination and in Memory is representative, nevertheless, *as an image*, it is directly present to consciousness and we immediately apprehend it ; whereas the knowledge that we obtain through Judgment and Reasoning* (Inference, Deduction, Demonstration, Argumentation) and through Conception is mediate, relative, and dependent. We reach the conclusion in a syllogism, for example, not directly, but through the middle term ; and the idea called up in the mind by a general name does not bring us face to face with the singular or individual simply, but with this considered as a type, one of a class, merely an example.

Intuition, then, is immediate ; Thought is mediate. Can we thence infer anything as to the relative authority or superiority of the two ? Can we say that the one, being immediate, is, while the other, being mediate, is not, to be

* For the distinction between Intuitive and Demonstrative Knowledge, see also Locke, *Essay*, Bk. IV., c. ii., § 17.

implicitly relied on? Many have affirmed this; but not well. If one is, then both alike are "founded on an essential principle of our constitution," and both alike need to be checked and guarded. Moreover, as we have seen, Intuition implies attention; and, as attention varies in all degrees, intuition varies also: even Boëthius could distinguish between "intueri" and "perspicaciter intueri". Further still, intuition, standing alone, gives us only "an obscure and indistinct consciousness"; for a consciousness "clear and distinct," Reflection is required.

The other great antithesis is between Intuition and Experience. This is partly an opposition of the two as sources of knowledge, but partly also it has reference to the second meaning of immediacy above explained. Intuition now is assimilated to Instinct, and is, indeed, not unfrequently employed as its synonym. There is also in it something of the flash of inspiration: and it is further allied to impulse—only, we must exclude the idea of fitfulness. Experience, on the other hand, is conceived as "the daughter of time". It is the laborious process of learning and tuition; demanding time, repetition, testing, and whose results (in the form of acquisitions) have often to be corrected, if not altogether unlearned.

Is Intuition, then, on this account, to be considered absolutely supreme; and are its dictates above and beyond dispute? It is not granted. The instantaneousness or rapidity by which intuition is characterized, is not necessarily a mark of infallible authority; for facility and instantaneousness characterize formed habits; and these adjuncts of a formed habit, unless they be on the side of virtue, are not

considered a recommendation. Nay, instincts themselves are not necessarily unerring ; and truth, in any sphere, is valid only when duly verified and tested. Neither Experience nor Intuition can monopolize infallibility : and so, between the two, in this respect, there is no just antithesis.

VI. We pass now to Historical, Critical and Discriminative Definition : well exemplified in

VIRTUE.

In ancient Greek philosophy, the word "virtue" was used as a synonym for "excellence"; so that, in the accepted classification, the virtues included not simply moral, but also intellectual, excellences. This use is manifestly too wide. But modern popular usage errs on the other side, and is manifestly too narrow. In the modern vernacular, the term is restricted to one special sphere of virtue—to *chastity*; as when we speak of "a virtuous woman" or of "female virtue". In this way, it has suffered a restriction of meaning similar to what has befallen the word "moral". A "moral person" is vulgarly interpreted to mean "a chaste person," and an immoral life is an impure one. A sad enough confession, no doubt, on the part of popular usage as to the main source of human frailty, but nothing sufficiently comprehensive for a definition. What we require is, to strike a middle course between these two uses ; and, doing so, the proper meaning of the term will, I apprehend, be found if we confine it to *moral* excellence, and to that in *moral* excellence

whereto we attach merit, and which we reward, admire, and praise.

Our object now shall be, to ascertain wherein this meritorious moral excellence consists.

In working up to an answer, I may commence by observing that virtue, like morality in general, has to do with *two* principles of our nature,—with what in these later days have come to be known as Egoism and Altruism ; and that every attempt to reduce these two principles to one has signally failed. This is now pretty generally acknowledged. It is now commonly admitted that we are neither all egoism nor all altruism, that the extra-regarding has claims upon us no less than the self-regarding, and that the great problem of ethics is to strike the balance rightly as between the two.

The first step, then, is already taken. Virtue has to do with two things. It has to do with egoism and it has to do with altruism, and neither of these two things can be resolved into the other.

But now, having got thus far, we may proceed a step farther. We must next observe that in neither sphere—neither in egoism nor in altruism—is virtue possible unless there be antagonism, unless the principle be somehow or other set against itself. There is nothing virtuous even in disinterested conduct, so long as it is simply a following out of a natural impulse. Indeed, antagonism, conflict, is the very life of virtue. Were all to go on with uniform ease and smoothness, were there no disturbing of the balance anywhere, were there no rubbing of interests, were there no pulling of opposing forces, virtue could not be.

Let us suppose, then, in either sphere a clash or conflict. Let us suppose, first, a battle of the appetites with reason. The question is, Where, in that case, does Virtue reside? It resides, we shall be told (on what grounds, we do not here inquire), in the supremacy of reason. Reason is to rule the passions : it is reason's function "to impose terms of peace, to spare the humbled and beat down the proud" (*pacisque imponere morem, Parcere subjectis, et debellare superbos*). We call the man vicious who yields to his lower appetites and raging passions ; *he* is virtuous who sets himself nobly to resist them, and who, by resistance, gains the mastery.

Let us next suppose a clashing in the region of altruism. Let us suppose a pitting of the two kinds of benevolence (the impulsive and the deliberative) one against the other. Where lies Virtue? A friend or neighbour is in some distress, and an appeal is made to us for assistance. Our instinctive impulse is to stretch forth the helping hand at once, and to relieve him. But our Reason tells us to deliberate. And, as we deliberate, we may come to see that relief in this particular way or at this particular time would be an ultimate injury to our friend or neighbour ; and so, considering this, and with much pain to ourselves, we refrain from helping. *There* then, we shall be told, lies virtue.

Or, once more, let us suppose egoism and altruism themselves in conflict. Let us suppose a regard to our own personal interest struggling against a regard to the interest and welfare of others. How shall we now adjust them? Is the right adjustment the Aristotelian "mean"? Very far from that. The right adjustment would commonly be

regarded as favouring the side of altruism. It is not virtue unless altruism gains the day; there must be a surrender to a greater or a less extent, of self; there must be a sacrifice of personal advantage. So that, here emerges with prominence the idea of self-sacrifice, the idea of personal cost; and of self-sacrifice that is both willing and intended. We must *know* what we are doing and *mean* what we are doing: otherwise, it is not virtue. As Price says (*Review*, C.viii.),—"to mere theoretical virtue, or (if I may so speak) the abstract reasons and fitnesses of things, praiseworthiness is not applicable. It is the actual conformity of the wills of moral agents to what they see or believe to be the fitnesses of things, that is the object of our praise and esteem."

Now, looking over these examples, what do we find that they have in common? for in their common element will reside the thing we are in quest of. We find, in each case, a conflict and a victory; a "battle of the warriors" and a display of moral courage and resistance. But we find also that, in whatever sphere it be displayed, virtue is not virtue unless there be to some extent a willing and intended sacrifice of self, an undemandable surrender of personal advantage. This is plain enough in the case where egoism and altruism were supposed in conflict. But it holds also, although not so apparently, in the other cases. For what constitutes virtue in the conflict of egoistic forces? Not simply the fact of victory (otherwise it would be virtue if the appetites were to overmaster the reason, as much so as when the reason overmasters the appetites); but further the fact that victory has been gained at personal cost, through crucifixion of the lower self, through stern re-

sistance of self-indulgence. And what is the second element in the virtue of altruism, when impulsive benevolence has yielded to deliberate? It is the fact that this yielding has been laudably accomplished with pain to ourselves, that it has not been effected except with a certain pang and self-surrender.

Resistance, then, issuing in victory, and implying merit : *that* is the one element. And the other will be found in this, that self has been surrendered (the individual to the public good, the lower self to the higher, the impulsive to the deliberative). So that Virtue, in its full definition, would stand thus :—Voluntary self-sacrifice, involving merit, and shown in heroic resistance of solicitations to selfishness, when egoism and altruism are in conflict, or when either of these principles is in conflict with itself : and the *strength* or *amount* of virtue, in any given case, is measured by the difficulties overcome.*

So far we have regarded virtue simply as *an act*. But virtue is also *a habit*, or better still, *a formed character* ;† and it is as a formed character or habit that it is commonly most highly extolled by moralists, Aristotle leading the way. “A habit,” says Aristotle (*Nic. Eth.*, Bk. I.), “that is praiseworthy is what we call an excellence or virtue,” and we learn

* It must be borne in mind that the above is an analysis of the *notion* Virtue, not an exposition of its *ground*.

† There is, of course, an *original* element in Character, one that is not pure habit. This usually goes by the name of “temperament,” when that word is taken as the equivalent of “disposition” (natural endowment on the active side of our nature), but is wholly different from “temper”.

virtue by actually doing it ; in other words, the capacity is created by the practice,—*δύναμις* follows *ἐνέργεια*. Now, as a habit, virtue is subject to the ordinary laws of *ἔξιν*. It has to be acquired and strengthened by repetition ; it needs to be fanned and cherished under the most favourable and judicious treatment—in the midst of struggle and temptation, to be sure, but by the thoughtful selection of circumstances, care being taken that the temptation be not at any point greater than we can bear ; it issues in facility or ease in doing virtuous actions ; and it creates in us a disposition towards these—a liking for them and a proneness to effect them : “all acts arising from established habits are free, unconstrained and cheerful”. Of these various points, nothing need be said here. I simply observe that a distinction must be drawn between the *separate* virtuous acts that go to form a virtuous habit, and *isolated* virtuous acts, which, so far from being helpful in the consolidation of a habit, are not unfrequently hindrances and detriments. Thus, a man with a besetting sin (say the drunkard) may *on an occasion* refuse himself indulgence. From one motive or another, he may summon up his moral strength, and by a strenuous effort may resist solicitations. But what use, if, as soon as the temptation is over, he begins to congratulate himself on his success, and, instead of allowing the victory achieved to be to him a stimulus to renewed resistance, allows it to become a plea for future gratification ? An isolated act is valuable to the moralist and to the educationist, but only as proving that he who can perform it has still in him virtuous susceptibility,—that, under the application of proper motives, it is

still possible to train him in a particular direction : standing by itself, it is absolutely useless, and may be, as we have seen, even detrimental.

But now let us suppose that a virtuous habit, or virtuous character, has been actually formed. What shall we say of it? It is plain that much of what we have said of virtue as an act, is not here applicable. We cannot now say that virtue lies in antagonism ; for, obviously, effort and antagonism are gone. Neither can we say that it is of the nature of a "crucifixion" ; for repetition has produced facility, and facility reduces the crucifixion to a minimum. Merit, however, remains in the fullest extent of the word ; and nothing is so great a security against temptation, nor is there anything in itself so amiable and so praiseworthy, as a virtuous *character*.

What has just been said of Virtue is true in great measure of the more general term Morality. Morality, like virtue, has to do with the two elements of our nature egoism and altruism ; it implies also that in either or in both there is conflict or opposition—a tendency to overstep limits or to depart from a certain standard. But the ideas of heroism and self-sacrifice are not prominent in "morality" : rather, the prominent idea is simply that of keeping even the balance as between competitors, the idea of correct or right adjustment, the refusing to allow one part or principle of our nature to encroach upon the rights of another. All virtue, therefore, is morality ; but there are sides or aspects of morality that do not rise to the height of virtue : they want its freeness and its fulness ; we approve of them, but

we do not regard them in the same light of admiration and reward.

What now of the kindred conception Duty?

Virtue and Duty are words commonly employed as synonymous; so that moralists speak indifferently of a "classification of *virtues*" and a "classification of *duties*". Now, I am not prepared to deny that each of our duties may, *under certain circumstances*, rise to the height of virtue. Nay, on the contrary, each may and perhaps sometimes does. But virtue and duty, strictly speaking, embody different conceptions; and nothing is gained by confusing them. As already seen, virtue presupposes antagonism, and it has merit attaching to it. Antagonism, on the other hand, is not an essential characteristic of duty, neither has duty merit. We punish or we blame a man for neglect of duty, but we do not praise him or reward him for the discharge of it: and if duty be strictly "what is *due*," it is that which we may lawfully claim and enforce (*officium* as opposed to *beneficium*), and the correlative of "duties" is "rights". If I am due anything to another, that other may lawfully demand it of me as a matter of strict obligation, and no thanks are owing to me for simply discharging my obligations. But no one can *oblige* me to self-sacrifice: self-abnegation is welcomed, encouraged, and gratefully accepted; it is praised, it is admired (and praise and admiration are, as Bacon says, "the spurs of virtue"); but it cannot be rigorously exacted. To virtue alone are praise and reward, admiration and esteem confined; *there* alone does the conjunction properly obtain, εἰ τις ἀρετὴ καὶ

εἴ τις ἔταινος—"if there be any virtue and if there be any praise".

VII. Very often the full definition of a philosophical word demands a complicated combination such as this—Analysis, Discrimination, and Contrast, helped by Etymology and Criticism.

Such a combination, for instance, is necessary for the psychological terms Sensation and Reason.

I. SENSATION.

This term, regarded in itself, has a clear and definite connotation; but it belongs also to a group consisting of three members, and so needs to be carefully distinguished from its close companions; and it has, besides, various special meanings, which in like manner demand our consideration—meanings determined by the word wherewith it is contrasted. The full handling of the term, therefore, will consist—first, in analysis, or presentation of the constituent elements; next, in definition by discrimination, or marking off the so-called synonyms; and, last of all, in adducing the correlatives or contrasts.

The related group is *Feeling, Sensation, Emotion*; and the contrasting terms are *Perception, Idea, Reflection*.

(I.) An adequate analysis of Sensation discloses the three following facts:—(a) an affection of the sentient organism in a distinct locality or seat (*i.e.*, a Sense-Organ, in communication with the Sensorium or Brain by means of Nerves);

this affection usually arising from an external stimulus, but may be the result of an altered condition of the organism itself; (*b*) a mental state or consciousness, of the nature of a feeling, and determined, as to its specific character, by the organic affection; (*c*) an outward manifestation of this consciousness—its corporeal or bodily expression. Of these, the first is the indispensable condition and invariable antecedent of the phenomenon, and the third its invariable consequent or result; but the second alone constitutes the sensation proper, and this sensation is always a thing *subjective*.* Criticizing Jacobi, Hamilton (*Reid's Works*, p. 795 b n) defines it:—"The mere consciousness of a subjective sensual state,—of the agreeable or disagreeable in our corporeal organism": which definition may indeed be accepted, if we regard the second clause as pointing to the emotive aspect of sensation, not as exhausting the characteristics, and if to the word "sensual" we give a very liberal interpretation, and understand by it (as is now commonly done, after Brown, Bain, *etc.*), not merely the five senses, but the "internal senses" or organic sensibilities (Lewes's "systemic sense"), and the muscular sense as well. Brown

* Those who do not lay the stress on the *psychological* aspect of sensation, but, *on the point of origination*, define Sensation as "a peripherally-initiated feeling"; and, according as the ends of the nerves at which sensation originates lie on the surface of the body or within the body itself, sensations are *epi-peripherally* initiated or *ento-peripherally* initiated. To the former class belong sensations of sight, touch, &c.; to the latter class belong organic sensations, &c. An Emotion, on the other hand, as distinguished from a sensation, would be a *centrally-initiated* feeling, inasmuch as the nervous discharge originates at the nerve-centres.

says (*Lectures* xvii. and xviii.):—"A state or affection of the mind, arising, immediately and solely, from a state or affection of the body, is the only definition which can be given of a sensation"; and again,—“Sensations are those mental affections which are immediately successive to certain organic affections, produced by the action of external things”. But Brown is here less satisfactory than Hamilton, inasmuch as he does not attempt to give the differentia of sensation *as a mental state*. For the same reason, objection may be taken to Mansel (*Metaphysics*, p. 68),—"Sensation proper is the consciousness of certain affections of our body as an animated organism": and I cannot consider the following distinction as psychologically valid (*Ib.*, pp. 152-3),—"The essence of the bodily sensation consists in its being a nervous affection of a particular kind. The accident, or emotion, which in certain cases accompanies it, is, that that particular affection is agreeable or disagreeable." The fact seems to be, that *all* sensation is feeling; and in *some* of the sensations (*e.g.*, the organic) the pleasure or the pain becomes the prominent factor.

I take it, then, that Sensation, psychologically considered, is a purely subjective fact dependent on the affection or impression of the organism. But it is not, on that account, to be regarded as an entirely passive affair. On the contrary, like all conscious phenomena, it implies change; and to whatever extent it does so, is to that extent active. Even common language might guide us here. For common language (following the French) uses Sensation to denote something new, fresh, and exciting—as when we speak of "creating a profound sensation," or of such and such a

person as "being unable to live without sensation"; and what is this but to acknowledge, on the part of popular usage, that Sensation reposes on relativity, and involves an active element? A sensation, in Ferrier's use of the word (*Lectures, &c.*, II. 175)—*i.e.*, that in which is involved "no act of discrimination, no act of any kind"—is a chimera.

It only remains to add that Sensations are distinguished by *Quality*, *Intensity* and *Duration*, and that there is a well-marked gradation in the *intellectual* implications of the sensations of the different senses.

(II.) Feeling, Sensation, Emotion: these are often employed as exact equivalents; but the three things they represent are quite distinct.

Take, first, Feeling.

This is a term of equivocal import; having now the narrowest, now the widest, signification.* Sometimes it stands for consciousness in general; † sometimes it is the generic name for one whole class of mental phenomena, *viz.*, Feeling, as distinguished from Conation and Cognition; sometimes it is confined to one or other of the species of this class; and sometimes it is restricted to a single variety of the species. Thus, for instance, both in literature and in philosophy, it has frequently been employed as a synonym

* Compare, in this respect, the Latin word *Sensus*; as used, for instance, in Cicero's *philosophical* works. *Sensatio*, of course, is not pure Latin. Hobbes's word is *sensio*.

† "A Feeling and a State of Consciousness," says J. S. Mill, in his *System of Logic*, vol. i. p. 55 (tenth edition), "are, in the language of philosophy, equivalent expressions."

for "touch". We find it so in Locke and Hume and Reid, and we find it so in Addison. The latter says (*Spectator*, No. 411): "The sense of Feeling [= Touch] can indeed give us a notion of extension, shape, and other ideas that enter at the eye, except colours; but, at the same time, it is very much straitened and confined in its operations to the number, bulk, and distance of its particular objects". Again, we frequently identify feeling with some special emotion; we use the word to designate sympathy or "heart,"—as when we speak of "a man of feeling," meaning thereby a man brimful of the milk of human kindness. Once more, feeling stands for conviction, opinion, or belief,—as when we say, "My feeling is that you are right"; and, again, for impulse, inclination, or desire,—as in, "My feeling is to embark in this project".

And, as with Feeling, so with Emotion. It too has suffered greatly from abuse. There is a popular usage and there is a philosophical usage, and matters are not mended by the fact of synonymous complications. In common parlance, Emotion points to *depth* or *intensity* of feeling; philosophical analysis lays the stress on *complexity*. But when, in ordinary conversation, we employ the adjectival form "emotional," we usually do it with philosophical precision. "A sensitive nature," in the mouth of the plain man, means one thing, and "an emotional nature" quite another, and the distinction is exactly that which is drawn by the philosopher. Again, Emotion has often been identified with Passion. This is in accordance with the meaning of the Greek word *πάθος* (see Aristotle, *Nic. Eth.*, II. 5), but is unsuitable in English. Passion, in English, is only a

single manifestation of emotion, or, rather, it is emotion in one particular phase and degree of it (*perturbatio*). Thus, love and anger are both emotions; we call them passions only when they rise to the pitch of extreme agitation, or when they thoroughly engross and overwhelm us.* Moreover, we sometimes call a man's ruling, guiding principle a passion, *e.g.*, power, ambition, wealth; but these, until they are established settled ends or motives, are simply emotions.

True, indeed, a distinction has been drawn between Passion and Emotion on the ground that emotion is not, while passion is, accompanied with desire. See, for instance, Hume (*Dissertation on the Passions*), Lord Kames (*Elements of Criticism*), and Mansel (*Metaphysics*). But this requires to be greatly qualified before it can be accepted, and *then* it hardly possesses the importance requisite for a distinction. Thus, Hume says:—"The passions of love and hatred are always followed by, or rather conjoined with, benevolence and anger. It is this conjunction which chiefly distinguishes these affections from pride and humility. For pride and humility are pure emotions in the soul, unattended with any desire, and not immediately exciting us to action. But love and hatred are not complete within themselves,

* Kant (in his *Metaphysic of Ethics*) has reversed the meaning here, as he has done in so many other cases in philosophy. The name "emotion" he ascribes to the *impulsive* and *transient* emotions, such as wrath and anger; while *permanent* or *enduring* states like hatred and revenge, he denominates "passions". Still, even in English, *emotions* sometimes stand for *impulses*; as when Dr. Pusey speaks of "emotions [= impulses or motions] to sin".

nor rest in that emotion, which they produce ; but carry the mind to something further. Love is always followed by a desire of happiness to the person loved, and an aversion to his misery : as hatred produces a desire of the misery and an aversion to the happiness of the person hated." But, surely, pride and humility are often as much accompanied with desire—pride with the desire of one's own happiness, and humility with aversion to one's humiliated condition—as love and hatred are ; and love at any rate is not unfrequently unattended with desire. It is all a matter of circumstances and degree ; and the same thing is now a passion, now an emotion, and a hard and fast line *in the matter of desire* cannot be drawn.

The question, then, recurs,—What, philosophically considered, is Emotion and what is Feeling ? and how are the two discriminated from Sensation ?

Three alternatives present themselves here. We may either take Sensation as the genus, and arrange feeling and emotion under it as species ; or we may regard Emotion as the genus, allowing feeling and sensation to stand as species ; or we may give the generic place to Feeling, and then we have as species sensation and emotion. Something like an approximation to the first of these plans is discoverable in Reid. When Reid does not employ feeling and sensation as mere synonyms (which is his usual method), he distinguishes the two thus (*Reid's Works*, pp. 229-30 and 311 b) :—"Sensation is a name given by philosophers to an act of mind, which may be distinguished from all others by this, that it hath no object distinct from the act itself. .

. . The word *feeling* is used to signify the same thing as

sensation, which we have just now explained ; and, in this sense, it has no object ; the feeling and the thing felt are one and the same. Perhaps, betwixt feeling, taken in this last sense, and sensation, there may be this small difference, that sensation is most commonly used to signify those feelings which we have by our external senses and bodily appetites, and all our bodily pains and pleasures. But there are *feelings* of a nobler nature * accompanying our affections, our moral judgments, and our determinations in matters of taste, to which the word *sensation* is less properly applied ; and, again, “feeling is only a more refined kind of sensation”. But this is clearly objectionable, as resting on a thoroughly inadequate analysis of the phenomena, and could be tolerated only so long as Mind was handled on the bipartite principle—“Intellectual Powers,” on the one hand, and “Active Powers,” on the other. We find the second plan in Brown. Mental phenomena, with him, are either External or Internal ; *i.e.*, they are Sensitive Affections, such as are determined by the presence of an external object, or they are mental states not dependent on an external object, but arising because of some previous change

* These “feelings of a nobler nature” are with Hamilton *sentiments* (so with Adam Smith and others), but are more properly denominated *emotions*. Sentiment, as a word, is but a sorry substitute for Emotion. It has in English a well-marked *intellectual* signification (= thought, opinion), and so cannot, without the risk of confusion, be confined to a species of Feeling ; and, besides, the adjective *sentimental*, owing to its vulgar associations, is ill suited to express in philosophy the fact designated by “emotional”. Add to this, that Hume sometimes uses *sentiment* abusively (*e.g.*, in the *Enquiry*) as the equivalent of *consciousness*.

in the state of the mind itself. Of these Internal Affections there are two classes,—*viz.*, Intellectual and Emotional; and the Emotional include (*Lectures*, xvi.) “all, or nearly all, the mental states which have been classed by others under the head of active powers”. The objection here is, that Emotion comprehends far too much. A great deal of what the older writers treated under “Active Powers” is not, with any propriety, designated Emotion; while some of the emotions were handled by them under their first division,—“Intellectual Powers”. We are driven, therefore, to the third of the above plans; and this is the one that has been adopted by Professor Bain, for instance, and is now pretty generally followed.

Feeling is susceptibility to pleasure and pain, and is to be regarded as the genus (marked off from Intellect and from Will), and the two species are Sensation and Emotion.* The point of importance then comes to be, What are the defining characteristics of the two species? where shall we discover their specific differences?

Both, as I have already said, are feelings: both, too, have an outward physical expression.† But there is not in

* Emotions seem to be divided by Kant in his *Metaphysic of Ethics* (see, *inter alia*, his chapter on “the a priori spring of the Will”) into *pathological* and *non-pathological* (*i.e.*, practical or moral), the former having reference to pleasure and pain, the latter being reverence for the moral law. But, plainly, if there be no reference to pleasure and pain in this last, it is wrongly classed as an “emotion”.

† This concomitance of the physical and the mental, in the case of emotion, is well expressed by the Latin “*commotio* (Classical as well as Scholastic). Aristotle expresses it in his *Psychology* or *περὶ ψυχῆς* (I., 10) by saying that “feelings are materialized conceptions” (τὰ πάθη λόγοι ἐνυλοὶ εἰσιν).

emotion, as in sensation, a localized corporeal affection—implying distinct organic seats or organs (and this, notwithstanding that Lord Kames has said that “we are conscious of passions and emotions as in the heart”); and, whereas sensations are primary and simple feelings, emotions are secondary, fuller, more complex, and derived. Again, sensations implicate the intellect but slightly; the intellectual implication on the part of the emotions is considerable and often great. The two have also been discriminated with respect to their bearings on volition. It has been roundly maintained that “in themselves considered, emotions can scarcely be called springs of action. . . . Emotions in themselves, and by themselves, lead to quiescence and contemplation rather than activity.” But, plainly, emotions (many of them) *are* very powerful springs of action*; while many sensations, until they reach a particular pitch of intensity, are sedative. It may be granted that emotions like the Aesthetic lead almost wholly to contemplation and quiescence: but what of Love and the tender emotions generally? and what even of Grief and Fear, up to the point where they paralyze and overwhelm us? Then, again, is not sensation often sedative and soothing, too? Witness, for example, the pleasure of the eye arising from a soft light, or the pleasure of the ear from certain kinds of sound. Volitionally considered, sensation and emotion are not to be discriminated; or, if we make a difference between them, it must be in a duly qualified and restricted form.

* The word itself would seem to indicate this. *E*-motio (Scholastic but not Classical) = impulse *outwards*.

It may be further observed that emotions, considered on their *passive* side, are more properly called "Affections".

(III.) What now of special significations?

In the problem of the external world, Sensation has a wider and a narrower sense. In its wider sense (which is now generally discarded), it stands for Sensation proper *plus* Perception proper; this last being sometimes designated, for distinction's sake, "*external* sensation". In its narrower sense, which (after Reid) is the one commonly accepted, Sensation is used as the correlative of Perception. As thus employed, the one has reference to the outward or objective attitude in the process; the other is the subjective or inner: the one carries us out of ourselves and brings us into relation with extra-organic objects; the other does not. The former (the perception) is sometimes called "the cognitive or knowledge-giving element," and sometimes "the vehicle of information". But, obviously, neither form of expression is sufficiently restrictive. There is in sensation, even in its narrowest sense, an intellectual or cognitive element; and, in the mere fact of *localizing* sensations in the organism, there is a certain differentiation of external from internal; but the cognition implied in perception is knowledge of the outward or objective regarded as the extra-organic.

The relation between Sensation, thus considered, and Perception, has been formulated by Hamilton in his well-known law (*Reid's Works*, p. 880 a):—"That, above a certain point, the stronger the sensation, the weaker the perception; and the distincter the perception, the less obtrusive the sensation: in other words—though perception

proper and sensation proper exist only as they co-exist, in the degree or intensity of their existence, they are always found in an inverse ratio to each other". But this, as Mr. Herbert Spencer has remarked (*Principles of Psychology*, II., 246, 248) is "rather an adumbration of the truth than the truth itself". The correct position seems to be—"not that sensation and perception vary inversely, but that they exclude each other with degrees of stringency which vary inversely": in other words, that they are not simultaneous but successive (just as Reid had supposed,—see *Works*, p. 186 *b*), and that the law of the inverse ratio has reference to their mutual exclusion. And if so, then the fact ceases to be isolated, and becomes typical. Exclusion of this kind is not confined to Sensation and Perception, but extends also to all mental states in their relation one to another: it is very general, and the law expressive of it is in substance just the law of absorbed Attention—applicable alike to sensations, to perceptions, to engrossment in a train of thought, to imagination, &c. It is, perhaps, this that Ferrier (*Lectures, &c.*, II., 40, 69, 70) means when he enunciates the law of the inverse ratio as holding between Sensation and Consciousness; at all events, that law has no other true significance. Sensation, as here understood by him, covers a wide field (as will be seen from the following quotation), and Consciousness is the notion of personality—or, as Ferrier himself likes best to express it, the "self-reference"—that "in man generally, though by no means invariably, accompanies his sensations, passions, emotions, play of reason, or states of mind whatsoever". He maintains "that the degree of our consciousness or self-reference always exists in an

inverse ratio to the degree of intensity of any of our sensations, passions, emotions, &c.; and that consciousness is never so effectually depressed, or, perhaps, we may say, never so totally obliterated within us, as when we are highly transported by the vividness of any sensation, or absorbed in the violence of any passion. While, on the other hand, returning consciousness, or increasing self-reference, has always the effect of deadening the sensation and suspending the passion, until at length, when it reaches its *ultimatum*, the sensation or passion becomes totally extinct." The same thing had been said by Cousin: "personality and passion are essentially in an inverse relation, in an opposition to each other which constitutes life".

Again, Sensation is sometimes put as the antithesis of Idea. This, in the hands of Malebranche and the Cartesians (but not of Descartes), is the distinction between sensation (*sentiment*) and perception, which we have just been considering; but, in the hands of others, it is used to denote a different fact. In *their* interpretation of it, Sensation is the present experience of the actual or real, as distinguished from the recollection of such actuality (Memory), and from the mental creation of a situation that has never been experienced at all (Constructive Imagination). This is Hume's antithesis of Sentiment or Sensation and Thought (or Impressions and Ideas) in the *Enquiry*. Sometimes, also, the relation is expressed as that of object and subject: but to call sensation the *object*, after having in sense-perception set it forth as *subjective*, is misleading in the extreme. A further complication arises when Sensation itself is distinguished into objective and subjective. An "objective

sensation" is, in that case, one arising from a stimulus external to the sense-organ; a "subjective sensation" finds its origin in the changed condition of the organ itself.

A word still remains on Locke's famous antithesis of Sensation and Reflection. Neither term of this contrast is used with strict or philosophical precision. On the contrary, the latter, in order to give the desiderated meaning, must be confined to introspection or self-observation—to the knowledge of mind and mental processes that is gained by the psychological method of internal perception; and the former must be extended so as to include external perception and everything that gives us a knowledge of the extra-organic,—information concerning the world without. It is obvious that Sensation here has a quite unjustifiable latitude; and, as for the other term (Reflection), *self-observation* is only one species of Reflection. The process implied in continuous attention directed towards "external material things" is often as much reflection as is "the notice which the mind takes of its own operations, and the manner of them; by reason whereof there come to be ideas of these operations in the understanding" (*Essay*, II. i., 4).

2. REASON.

The three methods by which Reason, like Sensation, may be best defined are analysis, discrimination, and contrast; and it will be convenient, in handling the term, to follow the order that is here laid down. The allied group is *Reason, Reflection, Judgment, Reasoning*; and the contrasting words—*Sense, Passion, Instinct, Faith*.

(I.) Reason (A—S. Understanding *) has often been regarded as the power or faculty of the mind that apprehends Truth. But objection may be taken to this on the score of vagueness : for *every* faculty, in the ultimate analysis, has truth (some truth) for its object, and Reason vanishes into thin air if we assign to it the province of truth in the abstract.

Sometimes its function is limited to the apprehension of truths self-evident or intuitive ; and self-evidence is said to attach both to first principles, and to ultimate or simple ideas,—*i.e.*, to such principles as command our assent without our being able to assign a reason for it, and to such ideas as cannot be resolved into others more simple or more fundamental. For an explanation of this usage, we must go back to the Greek *νοῦς*. And yet the Ciceronian Latin for *νοῦς* is not *ratio* but *mens*, and Boëthius's translation is *intelligentia* or *intellectus*.† *Intellectus* also, in Boëthius, represents *νόημα*, and, in the plural (*intellectus*) *νόηματα* (see his *De Interpretatione*, *passim*) ; while a distinction is drawn, in the *De Consolatione Philosophiae*,

* The two are properly synonymous ; but, so long as mental phenomena were classified as Understanding and Will, "Understanding" had a considerably wider range than "Reason," and it is significant that Locke's "Essay concerning Human *Understanding*" covers the whole province of *Mind*.

† A certain historical interest attaches to the fact, that the favourite Vulgate rendering of *νοῦς* in the New Testament is *sensus* : even *νοῦς Κυρίου* is *sensus Domini*. Sometimes also *mens* is employed as a synonym ; but only once in N. T. (*viz.*, in *Apoc.* xiii. 18) do we find *intellectus*, although *intellectus* in one passage (*Eph.* iv. 18) translates *διάνοια*, and *νόημα* is represented both by *intellectus* and by

between *Ratio* and *Intelligentia*. The former is represented as human and discursive, the latter as intuitive and divine; and in Lib. IV., pr. 6, *Ratiocinatio* (a function of Reason) is said to stand to *Intellectus* in the relation of the variable and progressive to the permanent and constant. Elsewhere, in the same work (Lib. V., pr. iv.), he arranges the mental faculties in an ascending order thus—*sensus*, *imaginatio*, *ratio*, *intelligentia*; and regards the first as taking cognizance of the *matter* (*materia*) of a perceived object, the second as dealing with its *figure* (*figura*), the third as rising to the *universum* or *universal* (*speciem ipsam quae singularibus inest, universali consideratione perpendit*), and the fourth as proceeding higher still to the *simplex forma* (*supergressa namque universitatis ambitum, ipsam illam simplicem formam pura mentis acie contuetur . . . illo uno ictu mentis formaliter, ut ita dicam, cuncta prospiciens*). Nor does Boëthius stand alone. All along, throughout the middle ages, a special dignity attaches to *Intellectus* over *Ratio*; and, even with ourselves, such a phrase as “Intellectual controversies” or “an intellectual system” has a particularly imposing sound. Thus, the leading term in St. Anselm’s famous ontological argument for the existence of God (in the *Proslogion*) is just this word *intellectus*; and it is through the “intellect,” according to Aquinas, that man

intelligentia. *Λόγος*, on the other hand, which is the proper Greek for *ratio* (as well as for *oratio*), finds its Vulgate equivalent in either of the two words *verbum* or *sermo*. It is translated *ratio* only in the signification *reckoning* (*computatio*), or when it is employed in the phrase “reddere rationem” (*to give account*). *Rationabilis*, however, —a Boëthian adjective also, but remounting to Seneca,—is the Vulgate’s translation of *λογικός*.

ascends to God in prayer. Indeed, *Ratio* in Scholastic Latinity is quite overshadowed by *Intellectus*; and, if we except such a passage as that from St. Augustine quoted on p. 182 (a passage that is almost unique), the idea of a noetic *Reason* must be regarded as emphatically modern. Hamilton refers it to Crusius and Kant; but we have the antithesis in our own Milton of "Reason discursive or intuitive". Yet, it is this *noetic* sense of the term that is avowedly accepted by intuitional philosophers of the present day, and that plays such a conspicuous part in intuitional Ethics. Nowhere, however, so far as I have observed, is the application strictly or consistently adhered to. On the contrary, though placed as the keynote at the opening of the exposition, it soon disappears as the argument proceeds, and other significations more prolific of results, adroitly handled and at first surreptitiously introduced, come by and by to supersede it, until at last the transition grows sufficiently apparent in the repeated occurrence of such phrases as—"the *cool judgment* of reason," "the dictates of mere reason *being slow and deliberate*," "the *decisions* of reason". *This* (the noetic) is the sense that the term bears in the Scottish Philosophy, when Reason is regarded as a synonym for Common Sense; for Reid informs us (*Works*, p. 425 *b*) "judging of things self-evident is the province, and the sole province of Common Sense". Nevertheless, Hamilton found it necessary to enter a protest. "The term Reason," says he (*ib.*, p. 769 *a*), "is of so general and ambiguous an import, that its employment in so determinate a meaning as a synonym of Common Sense ought to be avoided". The advice is unquestionably sound, but the grounds on

which he rests it are somewhat curious. One might almost suspect a touch of irony in the expression "so determinate": for, in Note A alone, Hamilton himself employs Common Sense in some half-dozen different significations. He applies it to a "doctrine," to a "philosophy," to an "argument". At one time he puts it for "the complement of those cognitions and convictions which we receive from nature"—which he also identifies with the data of consciousness; at another time he represents it as an original source or origin of knowledge—"a fountain of truths intelligible". So determinate, indeed!

Both the above meanings are combined, and a third is added, in the definition of Dugald Stewart (*Elements of the Philosophy of the Human Mind*, Part II., "Preliminary Observations"). Reason, according to him, not only distinguishes truth from falsehood, and right from wrong, but also enables us to combine means for the attainment of ends. There can be little question that this third or added element has come to us through the Greek. It is the Greek λόγος, in its sense of *ordering* or *arranging*, and is characteristic of the wise man or σοφός. But the adaptation of means to ends is a complex, not a simple, affair, and often involves a great many different processes, each of which is indeed rational, but not one of which can justly monopolize the name. Thus, it implies a preconceived plan, and, in so far as it does so, is a species of Conception. In so far, again, as it manifests knowledge of the properties of the things used as means and the nature or effect of their action, it is intelligence* or understanding. In so far as it

* This is the proper meaning of *intelligence*,—*viz.*, adjustment of means to ends.

signifies forethought or prevision, it is shrewdness or sagacity. It further involves choice or selection, and is thus (in Kantian phraseology) teleological *judgment*; and, when practical or ethical relations are implicated, it is Prudence. The heterogeneousness of Stewart's collection reminds us of Cicero in the *De Officiis* (I., 4): "homo autem quod rationis est particeps, per quam consequentia cernit, causas rerum videt, earumque progressus, et quasi antecessiones non ignorat, similitudines comparat, et rebus praesentibus adjungit atque annectit futuras: facile totius vitae cursum videt, ad eamque degendam praeparat res necessarias," *etc.* Or, it recalls Cousin: "It is reason which gives us this threefold knowledge [*viz.*, of our own existence, of the external world, and of God] on the same authority with that of the slightest cognition which we possess; reason, the sole faculty of all knowing, the only principle of certainty, the exclusive standard of the True and the False, of good and evil, which alone can perceive its own mistakes, correct itself when it is deceived, restore itself when in error, call itself to account, and pronounce upon itself the sentence of acquittal or of condemnation" (Henry's transl.).

In the philosophy of Kant (which may be taken as a type of the transcendental), Reason is distinguished from Understanding—and this in a twofold manner. The latter has its Categories or conceptions, and deals only with the relative and sensible, the particular and contingent: the sphere of the former is the absolute and super-sensible; its objects are Ideas, and the truth attained is necessary and universal—cognitions *a priori*.* With Kant, again, Reason is either

* Kant, however, vacillates in his usage; for, in his doctrine of

Theoretical or Practical; and the Practical Reason has reference to the Will—the Will as self-determining and autonomous; or, to express it in English form, it is the faculty of Conscience. The object of the Practical Reason is truth when it has become, not only universal or “objective,” but also *imperative*: in other words, it is the function of Conscience, as the Practical Reason, to deal with *the ought*, the obligatory, the morally binding, and to issue peremptory orders or commands.

Perhaps the best and least ambiguous application of the word is when it is taken for the whole of the intellectual part of man's nature—that part whose fundamental property is Comparison: and then we have to distinguish it from Feeling, on the one hand, and, on the other hand, from Will. As thus conceived, it is one of the three divisions which in their totality do duty for a definition of Mind; and, if we state it as a faculty, it is the faculty of Thought, Cognition, Intellect.

In calling it Thought, however, we must guard against the wide Hegelian sense of that term, and also against the signification attached to it by Descartes.

Thought, with Hegel, stands for something objective and unconscious (like the Schopenhauerian Will), “the inwardness, or, as it were, the kernel of the world” (Wallace, *The Logic of Hegel*, p. xxxviii.) But to speak of an objective unconscious thought is, obviously, to abuse language. For, although there are indeed “subconscious” mental activities

Inference, he refers immediate inferences to the understanding and mediate inferences to the reason—where, obviously, “understanding” and “reason” are employed in a sense quite different from the above.

—activities that underlie consciousness and operate beyond its range,—we are not at liberty to call them “thoughts”. Neither can we so denominate the products of design which the Natural Theologian discovers in outward nature testifying to a wise intelligent Designer. Neither is the name appropriate for the “stream of tendency” that exists in the world, whereby man’s plans and purposes are often made to turn out quite differently from what he himself anticipated or intended. Even when this stream of tendency is a “power that makes for righteousness,” if it be unconscious and impersonal, it is not in any proper sense Thought ; whereas if it be personal and conscious, it had better go by the theistic name of an overruling Providence.

In like manner, Reason is not identical with Thought as used in the broad Cartesian sense of “Mind”. “A thinking being,” says Descartes (*Meditation* II., Veitch’s transl.), “is a thing that doubts, understands, [conceives], affirms, denies, wills, refuses, that imagines also, and perceives” : and, in *Meditation* III., he regards as thoughts, not only ideas (representations, “images of things”), but also “volitions, affections, and judgments”.

Well, then, the fundamental property of Reason, as has just been said, is Comparison—otherwise denominated Difference and Agreement. But, in this sense, there is a rational element also in Feeling and in Will, and “discrimination” is the universal condition of consciousness. How then shall we distinguish Reason (Thought, Cognition, Intellect) from Will and Feeling ? Thus :—the characteristics of feeling are pain and pleasure ; in other words, a mental fact, in so far as it is pleasurable or painful, is regarded as

a feeling. Activity, on the other hand, is the essence of Will : our determinations and volitions have always a reference to action—ethically viewed, they affect conduct, they point to practice. Reason is different from both, though not of course independent of either ; and the functions of intellect are sufficiently evident when marked off from those of the other two. Each department has its own sphere, and each is connected with its own special sciences. The sciences that attach themselves to Will, are mainly Ethics and Politics. Metaphysics (including Ontology) and Psychology, are the eminently theoretical or rational sciences. The science of *Æsthetics* belongs to Feeling.

(II.) Of Reason, regarded thus as a synonym of Intellect, there is a variety of modes or manifestations, and not unfrequently the generic name is applied to one or other of these ; thereby creating no small confusion. This necessitates recourse to the second of our defining methods—that which deals with subtle differences or shades of meaning.

The first of the allied terms is Reflection. But the chief meanings of this word have been already given (see p. 210), and a simple reference to these is all that is here required. The only further signification that needs to be noted is that of contemplation or meditation,—where the idea of *pensive-ness* is prominent, and in which the mind is in great measure passive and quiescent.

Reasoning and Judgment come next. Both these processes agree in being discursive ; but, while Judgment is the comparison of objects and the affirming or denying of some relation between them, Reasoning (*ratiocinatio*,

λογισμός, τὸ λογιστικὸν) deals with judgments themselves, and from given judgments draws the fitting conclusion. There is indeed a sense in which judgment is, properly and strictly, reasoning; *viz.*, when it is not confined to the simple affirming or denying of some relation between two things compared (the function of the copula of the logical proposition), but when it stands for a decision or determination of the mind consequent on deliberation, argumentation, weighing of evidence. In this signification, the fact is sometimes best expressed by such terms as—decision, opinion, belief; and, often, it is more proper to say *we pass a judgment*, than simply *we judge*.* There, is, further, a *psychological* application, when the simple understanding or comprehension of a statement (no assent or dissent being involved) is said to be a judgment: in which case “a judgment is possible even when *the two terms are contradictory*,” as in the proposition “a square is a circular figure of particular dimensions”.

Again, Reason is not unfrequently distinguished from Experience. This is quite common in the writings of Hume, and it pervades English literature in general. Reason here stands for deduction, theorizing, *a priori* reasoning; while Experience is *a posteriori*, and is regarded

* Bailey, in his *Letters on the Philosophy of the Human Mind*, 1st Series, pp. 79-81, proposes to restrict the term to one species of the belief that results from evidence. “So limited,” he says, “it would express the effect of evidence on the mind, or an inference in contingent [probable] reasoning; but it might with great advantage be separated from these synonyms, and appropriated chiefly if not exclusively to signify a particular class of conclusions, namely, those formed from *conflicting* evidence—the principal function of our courts of law.”

as confirmatory and supplementary. Compare, in this connexion, the Butlerian expressions—"the reason of the thing" and "the nature of the case".

Once more, Reason is sometimes set forth as the special attribute of man,—*i.e.*, when man is brought into comparison with the lower animals. But, until there is something like unanimity among authorities as to its meaning in this special contrast, we need not trouble ourselves much about it. Some will have it to be the power of adjusting means to ends,—and this in the face of the known characteristics of the spider, the ant, the bee, and the beaver, to which we may add the foraminifer with its complicated shell of exquisite beauty and mathematical construction. Others, like Locke, lay stress upon Abstraction; others, on Speech, or the λόγος προφορικός; others still, on Consciousness or Self-consciousness;* and Professor Max Müller has lately, in his *Hibbert Lectures*, emphasized the Religious faculty—a faculty that, according to him, is distinct from both Sense and Reason, which enables us to "apprehend the infinite," and which, while the property of all men, is peculiar to man. Over against this is to be placed the results of recent anthropological investigations, and the tendency of modern speculation resting on an inductive and scientific basis—a tendency which is all in the direction pointed in the *De Natura Deorum* (III., 9), where there are ascribed to the ant, "non modo sensus, sed etiam mens, ratio, memoria". Any way, the meaning is in the highest degree shift and

* This is Ferrier's meaning when he says (*Lectures and Remains*, II., 108), that Instinct is "unconscious reason"; for Consciousness with him means the notion of personality or reference to self.

uncertain, and is more suitable for rhetorical purposes than conducive to precise thinking.

(III.) It still remains to apply the method of Contrast.

1. The first great antithesis is between Reason and Sense.

In expressing it, we have a choice of alternatives. We may call it the contrast of the universal and the particular, or of the one and the many, or of the permanent and the fleeting. But whatever mode of expression we adopt, the thing intended is always one and the same,—*viz.*, that it is the province of Reason to compare, abstract, and generalize; to mark agreements and differences, and to see the common in the manifold.

More than this, however, has sometimes been claimed. It has been said, for instance, that reason is “the power which judges of the perceptions of the senses and contradicts their decisions”. To which, it is sufficient to reply, that the senses do not *decide*; and what is contradicted (where contradiction there is) is the false inference or inferences so apt to be drawn from sense-impressions—as, *e.g.*, respecting the actual size of a distant object, or respecting the apparent movements of the heavens relatively to the earth. Reasoning and Reason are here confounded, and the part played by Experience, in the cases referred to, is ignored.

Again, it is said (Price, *Review of the Principal Questions in Morals*, Chap. I.) :—“The eye of sense is blunt. The conceptions of the imagination [“a faculty nearly allied to sense”] are rude and gross, falling *infinitely* short of that certainty, accuracy, universality, and clearness, which belong

to *intellectual discernment*." Stript of the rhetorical and exaggerated language, this means that Intuition needs to be supplemented by other mental operations before we can have the highest degree of certainty and clearness, and that the universal is pre-eminently a product of the Reason. But, if it is intended to signify, further, that the Senses are originally arbitrary and deceptive, that is a Platonic error not to be countenanced ; and the very writer from whom the above sentence is extracted, can himself admit as much when it serves his purpose. For, further on in the *Review*, we find him asserting that Intuition and Deduction are "found in various degrees—sometimes clear and perfect, and sometimes faint and obscure"; while, in Note E of the Appendix, when speaking of the external world, he gives utterance to this—"whatever difficulties may attend this subject, it is certain that the evidence of *sense* (like that of *memory*) will always maintain its authority".

Again, we are sometimes informed that Sense is only a capacity, Reason is essentially active ; or, put otherwise, that "sense consists in the obtruding of certain impressions upon us independently of our wills ; but it cannot perceive what they are or whence they are derived". This, so far as true, is only another way of expressing the characteristic already adduced ; and, so far as it goes beyond this, it is not correct. "Independence of the will" is not a fact absolutely distinctive of Sense ; for Reason too, in so far as it is the recognition of agreement and difference among objects, is equally independent ; and if, for instance, on opening our eyes we cannot prevent the picture of an object being formed on the retina and the consequent sensation,

no more can we avoid perceiving the difference between—say two different sensations or two different ideas, when once they come within the field of consciousness, or when our attention is aroused.*

Reason, then, deals with the general, the universal; Sense with the individual and particular: and herein lies the whole point of the contrast.

2. A second antithesis is between Reason and Passion.

This, however, need not detain us, as it is simply the contrast of the impulsive and the controlling powers of our being: the precipitate, the impassioned, the perturbed (*ὄρμη*), on the one hand,—and, on the other hand, the calm, the deliberate, the dispassionate, the regulative, the restraining (*ὀρθὸς λόγος, τὸ ἡγεμονικόν, ratio recta*). Cicero calls it the Contrast of “Thought” and “Appetite,” and in the *De Officiis* (I. 36) he expresses it thus:—“*Motus autem animorum duplices sunt; alteri cogitationis, alteri appetitus. Cogitatio in vero exquirendo maxime versatur: appetitus impellit ad agendum. Curandum est igitur, ut cogitatione ad res quam optimas utamur: appetitum rationi obedientem praebeamus.*”

3. Reason and Instinct give us the third opposition: the meaning of which depends in great measure on what we understand by Instinct.

* In order to see whither the doctrine that the essence of sense lies in “independence of the will” leads us, we have only to turn to such an extraordinary classification of the senses as Hutcheson’s. Under the guidance of this notion, Hutcheson was obliged to regard as senses not only the external and systemic senses, but also the internal senses—consciousness, the sense of beauty, public sense or *sensus communis*, the moral sense, sense of honour, sense of the ridiculous.

In the first place, there is a very wide sense of the word, in which it is extended to living beings in general—to plants as well as to animals ; and then it is said that “instinct” is nothing more or nothing higher, even in man, than that unerring action whereby a seed, if cast into the ground with its budding end downwards, invariably curves round as it grows so as to assume the upright direction and reach the air and light ; whereas the root-end, if pointed upwards, as invariably curves round in the opposite direction, retreating from the light and embedding itself in the earth and darkness. But this meaning is, obviously, impracticable for psychological purposes, and, before we can get a workable psychological conception, we need to narrow considerably. A narrower signification, accordingly, is found—say, in Dugald Stewart. Stewart divides principles of action into two classes—the Instinctive and the Rational ; and, under the former, he includes Appetites, Desires, Affections,—and, under the latter, Self-love and Benevolence or Conscience. This too seems to be Butler’s division ; for again and again in the *Sermons*, he groups Appetites, Passions (= Stewart’s Desires), and Affections on one side, and on the other—“Reasonable Self-love and Conscience”.* But even this is too wide. For there is clearly no propriety in calling the Desires instincts, much less in applying that name to the Affections (or Emotions). With equal justice might we call

* It is observable that, notwithstanding Butler’s vigorous protest against making benevolence the sum of virtue, he frequently identifies conscience (as above) with the principle of benevolence ; and, in one place in the *Sermons*, he calls the object of self-love “happiness,” and that of benevolence “virtue”.

Reason itself an instinct, or speak of an instinctive Will. That there is an instinctive element in one and all of these, is quite true,—something native or constitutional on which they repose ; but so much the greater need, on that account, of precision and exactness in marking the characteristic differences, and in carefully avoiding a confused classification.

What, then, shall we say, characterizes an Instinct,—so that we may sufficiently mark it off from other things nearly akin, yet different ?

Dr. Bain says : “Instinct is untaught ability” (*Mental and Moral Sciences*, Bk. I., C. IV.) ; more fully (*The Senses and the Intellect*, 3rd edition, p. 246), “the *untaught* ability to perform actions of all kinds, and more especially such as are necessary or useful to the animal”—the name “for what is primitive or primordial on the active side of our nature”. And this, no doubt, is true ; but scarcely the whole truth. Hamilton defines (*Reid's Works*, p. 761 a) : “An instinct is an agent which performs blindly and ignorantly a work of intelligence and knowledge”. The word “agent” is peculiar here ; but we may understand by it what Dr. Bain designates above “the active side of our nature,” and then it has intelligible meaning : and the addition of “blind and ignorant performance” is indeed important ; for a leading trait of instincts is that they are marked by the absence of conscious purpose (not necessarily of consciousness), so far as the individual is concerned. But is there not a third element that ought to be included, and has not Paley rightly characterized it in the word “propensity” ? “An instinct,” says he (*Natural Theology*, C. XVIII.), “is a propensity

prior to experience, and independent of instruction." If so, then the three defining features are—untaught ability, untaught propensity, unconscious purpose; * and by these is Instinct discriminated both from Reason and from its nearest ally Habit.

Habit is the product of tuition and experience; and although, when fixed and formed, it carries along with it a propensity to act, still this propensity is not untaught; and although it is of the nature of a habit to grow mechanical, one may nevertheless question whether any habit, formed within the experience of the individual, is ever so mechanical as that it cannot to a certain extent be brought within the individual's conscious control. Thus is habit psychologically distinct from instinct; and the distinction would remain for the individual even were it proved, with Lewes (*Problems of Life and Mind*, I., 141), that instinct is "*lapsed or undiscursive Intelligence*—the fixed action of an acquired organization, transmitted from ancestors who acquired it through Adaptation, whereby what was facultative became fixed, what was voluntary became involuntary".

But Instinct, by the three foregoing characteristics, is also sufficiently demarcated from Reason. It is opposed to Reason, when we take this word in the sense of Reasoning; for, in instinctive action, there is neither deliberation nor inference. It is opposed to Reason, taken as the equivalent of Thought (Cognition, Intellect); for, being a primordial propensity, Instinct is not based upon compari-

* Others are sometimes added: such as, unconsciousness, involuntariness, unerringness. But not one of them is thoroughgoing. See Darwin, *Origin of Species*, C. VIII.

son, but operates spontaneously and instantaneously ; and, being confined for the most part to the *active* side of our nature, it allies itself with Volition, rather than with Reason, or with any other mental operation whatever.

Another meaning, however, is sometimes given to the contrast,—to the contrast, I mean, between Reason and Instinct. The one, it is said, is the higher, and the other the lower ; and moral worth attaches to the first and not to the second. Frequently we hear it said : “The virtue of an agent is always *less* in proportion to the degree in which natural temper and propensities fall in with his actions, instinctive principles operate, and rational reflection on what is right to be done is wanting”. There is, no doubt, truth in this. Virtue (as we have already seen) is essentially moral strength, and presupposes the antagonism of different forces in our nature. It could have no meaning apart from temptation on the one hand, and resistance on the other. It is heroic action ; and because it *costs* us something, because it demands a sacrifice on our part, we admire and praise it. Hence we say, it is higher than action that is simply impulsive or instinctive. But the antithesis, as thus interpreted, is exclusively an *ethical* one. It is ethical truth which we dare not ignore, which is accepted alike by Intuitionist and Non-intuitionist ; though how far it is compatible with the theory of an *instinctive* moral sense, or moral faculty, is a different question.

4. The fourth and last antithesis is between Reason and Faith : but it scarcely concerns us here. So far as Faith is a lazy docile acquiescence in what comes to us stamped with authority—so far as it arises from mental indolence or

from unwillingness to think, investigate, and prove—so far as it is a blind or unintelligent adherence to a master's *ipse dixit*,—it is essentially antiphilosophical. Doubt, since the days of Descartes, has been acknowledged to be the beginning of philosophy; or, rather let us say, it is the first fruit of an awakened and rational curiosity. When, on the other hand, Faith stands for humble acceptance of truths that lie beyond the grasp of human Reason—truths vouched for by Divine revelation,—it is a *religious* quality, and the consideration of it belongs strictly to Theology.

VIII. The last combination of methods that need occupy our attention is that of Antithesis, Criticism and Analysis: and the exemplifying word shall be the metaphysical term

TRUTH.

Truth, like Consciousness, is best defined by the method of Contrast: and, according as the word put in opposition to it does or does not convey a moral quality, two of its species are already determined; it is *moral* or it is *intellectual* truth. Truth is also, *logical*,—which has reference simply to propositions. It is the assertion that such or such a subject does or does not possess such and such an attribute; and, if we confine ourselves entirely to Formal Logic, it is sufficient that the proposition be correct *formally*, regard not being paid to the *matter*. If, however, we do not so confine ourselves, but take in the matter of the proposition (as we ought to do), if we accept the theory of the quantification of the predicate (a wholly *material*

process), then logical truth will denote the relation between one class and another,—this relation being one either of exclusion or of inclusion, in whole or in part.

In its moral aspect, the proper opposite of truth is falsehood. Falsehood, also, is sometimes put as the intellectual opposite; but the proper intellectual opposite is error. Incorrectness, on the other hand, is the proper opposite of logical or formal truth.

Truth has further to be distinguished from vagueness and from confusion. Even when the vague is true, it is worthless for philosophical or scientific purposes; whereas one of the greatest evils the thinker has to contend against is confusion, and one of his highest aims is exactness and precision, both in thought and in expression. The reason is evident. Bacon gives it (*Novum Organum*, Lib. II., Aph. XX.). “Quia,” says he, “citius emergit veritas ex errore quam ex confusione.” The vague, however, must not be confounded with the general. On the contrary, Generality is the great characteristic of Science (as distinguished from mere knowledge), and, while nothing could be more general, for instance, than the Laws of Motion, nothing is susceptible of a more accurate and precise statement.

The Greeks opposed truth both to the false and to the imperfect: this last designating the incomplete or unfinished. But the richness of their language allowed them to mark the difference by separate words. The true, as opposed to the false, they called τὸ ἀληθές; the true, in contradistinction to the imperfect, was with them τὸ ἀληθινόν. They had also the antithesis of Truth and Opinion (δόξα); this last admitting of all degrees of probability, and affording

to Aristotle the subject-matter of Dialectic. (See Grote's *Aristotle, passim*; especially the *Topica*).

Various positive definitions of Truth have been attempted, but all more or less failures—more or less liable to objection.

Thus, Truth has been defined as the harmony of thought and thing,—the correspondence of knowledge and reality. To which the obvious rejoinder is, What *is* thing apart from thought,—reality distinct from knowledge? Moreover, the definition has reference simply to one province of truth; it is, at best, of importance only in Ontology or Metaphysics. But there is a correlation between inward thought and articulate utterance (λόγος ἐνδιάθετος and λόγος προφορικός), and the harmony of thought and word is as much truth as that of thought and external reality. There is also a true correspondence between Will and Duty,—between a man's conduct or actions and his conception of Right,—between practice and profession. Add to this that there is a distinctly theological use of the term, where it stands for the Divine Revealer, or for the revelation of His ways and will to men,—and the inadequacy of the above definition will be sufficiently apparent.

Again, Truth has been put for the intelligible world, as opposed to the world of sense; "reason" (λόγος) as contradistinguished from "opinion" (δόξα or αἰσθησις). But, not to speak of the arbitrary exclusion of sense from the region of truth here, this raises a previous question. *Is* there an intelligible world beyond and above and out of all relation to sense; and, if there be, is man competent to apprehend it?

Once more, Truth is Being, in antithesis to not-Being. But Being in itself is nothing, it is a non-connotative term ; and, before it can have meaning, it needs to be supplemented by "a definite or precise something". Neither shall we be more successful if we place truth in Becoming. If "nothing is," but "all things are coming to be and passing out of being" (Wallace, *Logic of Hegel*, p. cxxxv), we may not inappropriately ask, How a thing can "pass out of being" if it never *is*? and it will not satisfy us simply to be told, that "truth lies in a movement or process : not in isolation and rest". We may accept that statement in so far as it can be reasonably established, and yet find our difficulty unsolved.

The fact is, that no positive definition of Truth is, or can be, fully adequate ; and, when once we have adduced truth's opposites and ascertained its characteristics and criteria, we have set it forth in all the clearness that the case admits of. Now, the opposites have been already adduced ; and the main characteristics and criteria are these :—It is (1) either absolute or relative, (2) either real or ideal, (3) either necessary or contingent, (4) either reasoned or unreasoned. A glance at each.

1. *Absolute* is applied to Truth in either of two senses. (a) Truth is sometimes said to be absolute when it is out of relation to our own and to all intelligence. This, however, when examined, is seen to be self-contradictory ; for, truth out of relation to *all* intelligence is quite inconceivable. (b) The only legitimate meaning of the word is when it is taken as the equivalent of *universal* : and then two significations

emerge :—(*a*) First, absolute truth is truth, not confined to this, that, or the other intelligence, but common to all intelligences (the κοινὸν λόγος of Heracleitus): when peculiar to the *human* intelligence, it is relative (Heracleitus's *ιδέα φρόνησις*). And this distinction is regarded by those that make it as holding in Ethics as well as in Metaphysics. Hence such expressions as—"absolute and relative good," "absolute and relative rectitude," "absolute and relative virtue," *etc.* But let us come nearer to the distinction, and we see that it vanishes on close inspection. For, how (let us ask) shall we determine what is common to *all* intelligence? The only answer is, By an employment of our own intelligence. But if so, that is clearly to measure others by ourselves, and, therefore, to create a *counterfeit* universality. Mansel (*Metaphysics*, pp. 377-8), speaking of Kant's Categorical Imperative, says :—"Kant's fiction of an absolute law, binding upon all rational beings whatever, has only an apparent universality, because we can only conceive other rational beings by identifying their constitution with our own, and making human reason the measure and representative of reason in general." What Mansel here says of the categorical imperative holds more widely, and his argument strikes at the very root of the general distinction.

But (*β*), secondly, there *is* a sense in which the distinction holds—in which "absolute" may be discriminated from "relative",—a sense that is both valuable and valid; *viz.*, when we confine both terms to the *human* intelligence: and then, absolute truth is the name we give to what is true *for man*—for men *in general*; while, what is confined to this or that individual man is relative. Even here, however, a

false criterion may be adopted. For, in order to determine what is truth for man, we may start with an *a priori* conception of human nature, of the human constitution, and, disregarding experience, may proceed to impose conditions on the subject that are at total variance with the facts as we actually find them. The only valid plan is to start from experience, and then rigorously to pursue the inductive method—to note and analyze, to compare and sift, until we have reached the desiderated generalization, which will give us the common, the absolute, the universal, and, with it, the particular and the relative.

2. Again, Truth is either real or ideal. The antithesis here is susceptible of a double interpretation, according as we take "ideal" simply as equivalent to the fictitious or imaginary, or extend it so as to embrace the whole range of the (mental) idea. In this last case, the real is the external objective existence, the thing as it exists in (outer) nature; whatsoever, on the other hand, has only a subjective mental existence—even though it be the representation of an external reality—is ideal. In the other case, ideal is confined solely to pictures of the Fancy—to creations of the imagination; and is as much opposed to the representations of Memory as to the outward reality. It is important to note these distinctions; for, according as we attend to them or ignore them, we shall give a satisfactory or an unsatisfactory answer to the question, Is the ideal a legitimate guarantee of the real? Can we infer the existence of the one from the existence of the other? In no case, perhaps, can we *infer* objective existence from subjective (as seems to be done in Descartes's ontological proof of the existence of

God); but, in the case of Memory, the ideal is a thorough guarantee of the real,—it faithfully reproduces (represents) it; while, in the case of the Creative Imagination, the real is rigorously excluded from the ideal. Moreover, in Conception, the idea is a good enough test of the *possible*. Whatever we can conceive as existing, that may possibly exist in fact; in other words, there is nothing in the supposition of its existence that transgresses known laws and conditions of the existent,—there is no contradiction: although we are not in a position to say that it *is*, we are yet not in a position to affirm that it *is not*. From which it follows, that Conception, in this sense, is mainly useful as a check on dogmatism. Valueless as a proof of the actual or real, it has a certain negative or deterrent worth. Although it cannot *establish* anything, it is in many cases sufficient to make us suspend our judgment, or to wean us from overconfident assertion.

3. Thirdly, Truth is either necessary or contingent.

A *contingent* truth is the name applied by some to an existent fact which, although this and nothing else, can nevertheless be easily conceived as having been different from what it is. When, on the other hand, we cannot conceive a thing (fact or object) as different from what it actually is, it is then said to be *necessarily* true. The one is sometimes called a primary truth of fact, and the other a primary truth of reason or intelligence.

Of contingent truth, the leading characteristic is, that it is "mutable". As mutable, it "depends (so says Reid, *Works*, p. 441 b) upon some effect of will and power, which had a beginning and may have an end"; and, as mutable, it

may "be true at one time, and not at another". Of necessary truth, there are usually adduced two criteria :—(1) it not simply *is*, it *must* be,—in other words, necessity attaches to our thinking it ; (2) it is universal,—it holds not simply here but everywhere, not simply now but always. Speaking of these criteria, Hamilton says (*Reid's Works*, Note A, p. 745 *b*) :—"The argument from Common Sense, it may be observed, is of principal importance in reference to the class of contingent truths. The others, from their converse being absolutely incogitable, sufficiently guard themselves."

But how (let us ask) does the matter really stand ? The fact is, that the distinction between necessary and contingent is more than disputable, and the criteria will not endure examination. A contingent truth, we are told, is "mutable". But, besides the objection that a *mutable* truth is no truth at all, I maintain that the only intelligible meaning of "contingent" is—that the whole grounds or reasons of a thing are not by us *yet* known. But does it hence follow that we shall *never* know them ? and is it not the case that *when* known, or to the extent known, a contingent truth is as necessary as any other ? Then, let us take the criteria of necessary truth ; and let us ask, first,—What constitutes "necessity" ? The answer, in the last resort (as seen in the quotation just now made from Hamilton), is—inconceivability of the opposite. But, plainly, inconceivability of the opposite is a most uncertain test, and whatever depends on it for its existence is liable to be overturned at any moment. What is inconceivable now, may not be inconceivable in the future ; and what is inconceivable by one man, may be perfectly conceivable by another. Next, let us ask,—What constitutes

"universality"? Is it "universal consent"? Then, clearly, universality of this kind cannot be established? "Quod ubique, quod semper, quod ab omnibus creditum est" is not, in any sphere, more than a rhetorical flourish; and, although it is admitted that *general* consent is on the whole rather a presumption in favour of an opinion than against it, nevertheless I must insist that general consent is never an ultimate criterion, and that it may oftentimes be, and oftentimes has been, very prejudicial to the advance of truth. Are we then to regard it, with Hamilton (see *Reid's Works*, Note A, *passim*), as the inseparable companion of necessity as well as its sure index and its indispensable consequence? Then, the fall of necessity is the fall of universality too; whereas, even granting necessity, universality is established only on such an assumption as the following,—"Whatever is necessary to be thought is therefore absolutely universal": an assumption that makes us pause before accepting it.

What then are the valid criteria? Let us take a concrete instance. Suppose it said, "Two straight lines cannot enclose a space," and the question asked, Why? The answer may be either—(1) because in our experience, as simple matter of fact, they never do, or (2) because to suppose they did, were to affirm a contradiction in terms. The test, according to the second answer, is *conformity to the definition* (straightness and convergence are contradictory); according to the first, it is *conformity to experience*. The two, however, are by no means incompatible. On the contrary, they may quite well co-exist; but the second is, clearly, not ultimate. For, if we ask, Whence the notions

of straightness and convergence?—we can only answer, “From experience”: whereas, apart from experience, “conformity to definition” would not enable us to distinguish between truth and fiction—would not enable us to say whether a thing were a mere creation of the mind or had actual (objective) reality.

It results then, that the highest criterion of truth is indefinite repetition and uncontradicted experience; and “certainty” and “necessity” must themselves be tested by this; while whatsoever stands this test has both practical significance and philosophical value.

4. Last of all, Truth is reasoned or unreasoned.

Reasoned truth is either—(1) truth reached by a process of reasoning or argumentation, in contradistinction to intuition, or (2) truth (no matter how or whence derived) systematized, harmonized, brought into a philosophic unity—a *body* of truth.* The first alternative gives us such distinctions as—ultimate and derivative, primary and secondary, self-evident and demonstrated or proved. The criterion of the second is self-consistency, the absence of contradiction; or, to put it positively, the fact that one part of a system harmonizes with another, that the materials of which it is constructed are reconciled and well adjusted, that brick reposes upon brick, and the edifice when completed presents the appearance of a uniform architectural whole. The very idea of a “system” implies, that “Truth is catholic and Nature one”.

Unreasoned truth, again, is either—(1) raw, undigested,

* This is the Ciceronian *ratio*, in one of its significations. See *De Officiis* I., 41, and III., 4.

unsystematized facts,—which, standing by themselves, are philosophically valueless, or (2) intuitive perceptions, whether in reference to the objective or to the subjective world : perceptions, however, which (as we have seen) are not true *because* intuitive. On the contrary, they are subject to review like other truths, and are to be accepted only when duly verified and tested

CHAPTER VIII

SEPARATION OF QUESTIONS IN PHILOSOPHY.

THE keeping separate of distinct but allied questions in philosophy is a point of the utmost importance, both for the expositor and for the critic. It means clearness and the absence of confusion, in the one; it is the greatest safeguard against the worst of logical fallacies, *ignoratio elenchi*, in the other. The process is essentially Definition. It is the discriminating of things that tend to run together; the drawing of boundary lines, with a firm and steady hand, in this direction and in that.

Yet there is nothing commoner than to find woful laxity in this respect, and, consequently, interminable misunderstanding and dispute. Nor is there any department of philosophy where the evil does not reign. Logic, psychology, ethics all come under its influence; and I need hardly mention metaphysics and ontology.

The matter may be put somewhat differently. There are two main rules to be attended to in the separation of Philosophical questions :—*first*, keep questions of fact separate from questions of theory, and, as to the order of treatment, commence with the first, not with the second; *next*, in every province of investigation or dispute, make

sure of the limits of inquiry. It is because of the first rule that the *nature* of an idea, for example, comes to be considered before the determination of its *origin* ; and it is because of the second that we isolate ultimate problems from all others, and handle them apart. Yet neither of these rules has been sufficiently respected ; and hence the general confusion that prevails.

It may not be amiss, then, if I here follow out the subject a little ; and, as my chief object is to exhibit the working of Logical Method, we shall best perhaps put the matter in the form of a few leading examples.

I.

A commencement may fitly enough be made with questions that range themselves around a single conception in one distinct province of philosophy : and, as Metaphysics offers a tempting field, let us begin with the notion of Cause.

The first question to be asked and to be settled in connexion with Cause is,—What is the *import* of the notion? where shall we find its *differentia* ? Much depends upon our determination here, and upon the persistence with which we abide by it. For, Cause may stand for at least three different things. It may stand for priority or antecedence ; it may be taken in the old Stoical sense (familiarized to the West by Cicero) of efficiency or power ; it may be regarded as the sum total of conditions—the aggregate of concauses, positive and negative (the presence of such and such things *plus* the absence of such and such hindrances or impediments)—emphasized by Mill.

And, according as we strictly adhere to any one of these conceptions or pass indifferently from one to the other, we shall maintain clearness in our reasoning or involve ourselves in ambiguity and mist.

A specimen of the prevalent confusion on this preliminary point may be found in the Free-will controversy. Much of the unsatisfactoriness that usually attaches to the conduct of the discussion may be explained by the circumstance that disputants on both sides take for granted that there is nothing equivocal in the leading question, "Are motives causes?"—whereas the issue greatly turns on the ambiguous word "cause," and the answer (whether affirmative or negative) means one thing or another according as the term is interpreted in this way or in that. Thus, are we to understand by "cause" Mill's sum-total of conditions? Then, motive must be regarded as the *whole* of what at any particular moment determines choice, and the common distinction of external and internal motives (on which the difficulty really hinges) is seen at once to be fallacious and misleading, and the free-will puzzle itself becomes simplified to a great degree. Are we, on the other hand, to take the abstract and analytic view of cause? are we to accept it as the synonym of efficiency or power? Then, the distinction between external and internal motives—between the prompting force of things without us and the nature, laws, and principles of the world within—becomes indispensable, and the free-will problem can hardly be else than an enigma. Failure or success in the solution much depends upon the start we make, and the start is in great measure conditioned by our conception of causation.

A cognate confusion is seen when cause is identified with "ground" or "reason": a confusion most conspicuous in the case of beliefs. A man believes so and so, and, in justification, regards it as sufficient to adduce the cause of his belief—to state how it originated, under what conditions it was produced. Yet the cause is one thing, the ground or reason is quite another. The latter is wholly rational, and commends itself to our deliberate acceptance; the former may be altogether irrational, and a knowledge of it may lead to the rejection of that which it originated. A cause *explains*, a reason *justifies*; and we miss the point if we offer the one when the other is required.

After import comes *origin*. We have now to settle, whether the conception is derived from volition, or whether we obtain it from experiences of succession; and, if this last, whether physical or psychical succession is the proper type. Rightly also may be raised the question, whether, if we derive the conception from mental experiences, it is legitimate to extend it to the outward world at all. But, while anthropomorphism may thus be discussed—indeed *must* be discussed, if the issue is to be made at all definite,—the problem must not so be stated as to convey the impression that it is possible for man to gain knowledge which stands out of all relation to himself. It is pure nonsense to inquire, What is Cause apart from, and unrelated to, the human intelligence? If we could solve this puzzle, we should accomplish the wonderful feat of both being and not being man at the same time.

We are next introduced to the *principle* of causality. The law of Causation—what is it, and how best may it be ex-

pressed? No doubt, our answer will most likely follow the attitude we assume with regard to the notion; but not necessarily so. The two inquiries are closely related, but they are by no means identical (any more than the import and the origin of the notion are identical); and only confusion results if we be not careful to separate the treatment. Suppose, then, that we accept the doctrine that a cause is the sum-total of conditions; then the formula consistent with this position is, "Every effect has *its* cause". We refuse to put it in the indefinite form, "has *a* cause," because, on the special supposition, there can be only one cause capable of producing—or more strictly of *issuing in*—an effect; and we express the law as an identical proposition because effect and cause are only different aspects of the same thing. If, on the other hand, we take cause as the equivalent of agent or producer, then our principle will assume the form, "Every effect has a cause," or "Everything that begins to be is the result of something adequate to its production". The proposition is still in reality a verbal one; but, by using the indefinite "a" or "something," cognizance is taken of the fact that there may be a plurality of causes, or that more than one cause may produce the same effect. Tautology is avoided only when we express the law in terms of antecedence; and then our view of the notion is the first of the three above referred to.

But part of the difficulty of expressing the formula has reference to the causal nexus. Is the simple statement of the *fact* sufficient, or do we need to introduce the circumstance of *necessity*? Does "has" or "is" give the whole case, or is "must" indispensable? This is a question that affects

the principle, but has not relevance when we simply regard the notion. It may be argued indeed in connexion with genesis (to which we shall advert presently), but its natural place is previous to that discussion ; for, as matter of fact, we find that our view of the nature and signification of the principle is more likely to determine our doctrine of genesis than our theory of genesis to shape our view of the principle. Hence again the necessity of keeping the problems scrupulously apart, and of giving them a separate handling. If it be so that cause and effect are relative and correlative, then we can see at once that the necessary union is precisely that which exists between correlatives in general. It is nothing more than—Given the one, and the other too is given : and there is no greater sense in saying, “ Every effect *must* have a cause,” than in saying, “ Every height *must* have a hollow,” or “ Every parent *must* have a child ”.

It is also in place here to ask, What is the relation between the principle of Casuality and the (teleological) principle of Design ? Is the latter merely a particular application of the former ; and, if so, may not the mode of expressing the one suggest the correct form of expression for the other. If “ Design implies a designer ” is adequate for the teleologist, is there anything inadequate in the corresponding form for the metaphysician, “ Effect implies a cause ” ? If the nexus in the first case is acknowledged to be that of implication, need we suppose it to be anything different in the second ?

But now, fourthly, comes up the question of *genesis*. The points involved are similar to those noted under the origin of the notion, but with a difference ; and it is this

circumstance of a difference that necessitates our sundering the problems. We have here, of course, the alternative of Experience or Intuition ; but if we accept the first of these alternatives, we have not only to account for men's firm belief in the uniformity of Causation, we have also to show whether this belief is legitimate or illegitimate. Hume, as is well known, found the key in Custom ; but he thought the very fact of this discovery proved the illegitimacy of the product. The *non-sequitur* has not escaped the notice of his successors ; and there are few truths more worth insisting upon than this—that an experiential origin to knowledge does not necessarily imply uncertainty and error, much less treachery and deceit.

At this point may be taken up consideration of *proof*. What is the evidence for the principle ? how best may it be established ? If we have here a "first principle," then Intuition will be sufficient criterion, and both the possibility and the need of proof will be denied. But if, in face of the circumstance that there is no unanimity among philosophers either as to the correct expression of the formula or as to the range of its application or indeed as to any other point connected with it, we have difficulty in accepting this solution of the problem,—then, proof of some sort is imperative, and to refuse to meet this requirement is tantamount to a confession of impotence.

The fifth point confronts us with the *range* of Causation. Does it hold simply in the external world, among the objects and events of Nature ; or does its sway embrace the region of Mind as well ? Is the whole of nature and the whole of mind included ; or is a portion of both or of either to be

exempted from its operation? We now inevitably touch the subject of miracles and of free-will ; but, whatever be the range we allow the principle, the point to be particularly observed is, that our decision need not affect either our statement of the law or our view of the notion. The law may hold and be valid in the physical world, and we may regulate our lives in accordance with it, whatever be our belief as to the miraculous and the supernatural ; and philosophers who trace their conception of Cause to Will are precisely those who are most likely to deny the strict operation of the causal law in the sphere of volition. The question of range is altogether a separate problem, and must not be mixed up either with that respecting the import of the notion or with that respecting the meaning and mode of expressing the principle.

Here, then, are no fewer than five questions (or sets of questions) all relating to the same subject, yet each distinct and possessing a value and position of its own. Nor can we, from knowing a writer's solution of one of them, infallibly divine his real attitude in relation to the remainder. Many, like Aristotle * and the ancients generally, never handled the principle or law at all : it was mainly in the

* It scarcely could have been otherwise with Aristotle, seeing the conception that he entertained of "cause". The Greek *αἰτία* or *τὸ αἰτιον* was wide enough to cover the formal, the material, the efficient, and the final. Only one of these four causes would now-a-days be regarded as worthy of the name—*viz.*, the efficient. For, although the expression "final cause" is still common among biologists and natural theologians, it has lost all metaphysical connotation to the one, and, to the other, it is really a species of efficiency or productive power.

Latin world that there arose a clear view of the notion. Many, again, like Locke, have accepted the Ciceronian definition of the notion ("a cause is an efficient we are not, therefore, to conceive of it as though it were a bare antecedent, but as an efficient antecedent" *), while they have traced its origin to "the notice that our senses take of the constant vicissitude of things"; in other words, to experience of the world without us. Many, like Cousin, find the origin of cause in self-consciousness or will, while they regard the principle as something existing from the first potentially in the mind, to be afterwards called forth by experience. And many preach the influence of motives in determining action with all the vigour of Necessitarians, who yet refuse to admit that cause and motive are generically the same. The confusion, indeed, is something appalling, and is not equalled perhaps in any other province—save that of Perception. The requirements of logical method have been lamentably neglected, and the resulting inconsistencies and incoherence are simply inevitable.

Reference has just been made to Perception. Well-trodden ground need not here be re-traversed; but two errors are particularly rife at the present moment, a brief allusion to which may not be inappropriate. One is, the mixing up of the problem of external perception with that other and entirely different problem as to the constitution of

* *De Fato*: Causa autem ea est, quæ id efficit, cujus est causa. . . . Itaque non sic causa intelligi debet, ut, quod cuique antecedit, id ei causa sit, sed quod cuique efficienter antecedit.

the human mind ; and the other has reference to the Experientialist's idealism and his philosophical method.

As to the first of these, it is common enough to find the question of external perception argued as though it were the question of Spiritualism *versus* Materialism ; and the result is simply that which might be expected. "What is the essence of Mind ?" is an inquiry of the utmost interest and importance ; but determine it in any way you please, and we have not thereby solved the question of Perception ; while, on the other hand, our solution of this does not necessarily implicate one particular view of Mind, and the attempt to render the implication necessary is fraught with baneful consequences.

So with the second point. The Physicist and the Experiential Idealist (we are told, and told correctly) are to be classed together ; for the method of the one is the method of the other, and the two have fundamental principles in common. But the Matter of the physicist is something external and independent, and an object of immediate cognition ; the external world of the idealist is neither external (in the abstract sense of that term) nor independent, and what we immediately cognize is states of consciousness. Therefore (it is argued), Empirical Science is here in contradiction of Experiential Philosophy ; and the implication of course is—so much the worse for Philosophy. The rejoinder is obvious enough. The realism of the physicist is precisely that of the practical man, and, if so, has no *special* bearing whatever on the philosophical position. Now it has been proved, and is generally admitted, that for *practical* purposes the realism of the plain man or of common

sense is equally valid for realist and idealist alike. The attitude of the physicist, therefore, is neither more nor less inconsistent with that of the idealist than is the attitude of the plain man or of the idealist himself when he is dealing with practical affairs. The fallacy is at bottom this :— Because the physicist and the experiential philosopher agree in method and in certain other respects, therefore they agree in everything. It is forgotten that the two have different ends in view ; and that this difference of end removes the point of the objection and explains the seeming opposition.

If now we turn from Metaphysics to Ethics, we shall find examples abundant in all directions. We have an instance in the perpetual confusing of the *ethical* with the *religious* sanction, and another in the mixing up of the ideal of ethical doctrine with the doctrine as it actually exists, and still another in the tendency to ignore the discrimination between End and Motive. Yet, who that considers it does not see that ethics and religion are two separate things, and that ethics *de facto* is by no means identical with ethics *de jure*, while the end of an action is very far from being synonymous with the motive of it ? It is the “end” of conduct that gives us the test, standard or criterion of it and that determines its absolute value ; it is the “motive” that constitutes the moral sanction. It is one thing to ask, Do actions tend simply to the individual’s good, or have they reference to the general welfare ? Is self the centre and the measure of them, or do they go beyond self and embrace other selves ? Are they self-regarding or extra-regarding,

interested or disinterested, personal or benevolent, egoistic or altruistic? It is quite another thing to inquire, Whether they are prompted by a regard for duty, or by desire of pleasure? by fear of punishment or by longing for reward?

But, perhaps, as good a case as any is seen in the group of questions that range themselves around the central ethical conception, Virtue.

As with Cause, so here. First comes the determination of the notion, then the consideration of its origin.

The difficulties attaching to the notion are somewhat peculiar, arising partly from the circumstance that virtue as an *act* must be distinguished from virtue as a *habit*, and partly from the circumstance that Virtue must be clearly discriminated both from Morality and from Duty. The point, however, has already come before us in Chapter VII. ; and it will be sufficient to refer the reader to what was there said under the head "Virtue".

Now, if clearness as to the notion is a first requisite for profitable discussion, confusion as to the notion is the first observable peculiarity in English ethical disquisitions. Thus Butler, in his *Dissertation*, nowhere lets us know what exactly he understands by Virtue, although Virtue is the subject of which he is specially treating. The nearest approach to precision is when he sets it down as "justice, veracity, and regard to common good". This is a definition by enumeration of particulars ; but neither are the particulars exhausted, nor is the essence of the thing defined herein declared. Other things besides justice, veracity and benevolence are species of Virtue ; and not all just, honest or benevolent conduct is virtuous. Thus, benevolence, if it is

simply the natural outflow of an easy, amiable and humane temperament, has nothing of virtuous attaching to it; neither are we praised for speaking the truth when there is no temptation to mendacity, or for doing justly when injustice is beyond our reach. Taken generally, "mere absence of crime—where no possibility of crime could be found—does not constitute virtue; and without temptation mere innocence has no merit". True, indeed, each and all of Butler's particulars may *under certain circumstances* rise to the height of Virtue, and so may others not included in the summary (such as mercy and humility); but it is just this peculiarity of the circumstances that gives us the defining characteristic, and the characteristic is, that here we have unselfishness or self-sacrifice displayed, and, where unselfishness is wanting, we have not Virtue. Had this been observed, it would have spared us the indiscriminate mixing up of virtue, moral rectitude and duty that disfigures the *Dissertation*, and it would also have given additional point to the discussion about the Moral Faculty.

Similarly, apart from clearness as to the notion, no definite result can ever be reached as to the competence of Virtue to stand for the ultimate ethical end. So long as leading terms like Duty, Obligation, Virtue are undifferentiated, dispute must needs be interminable; it is only when a sharp and consistent separation is made, that a positive and definite conclusion can be looked for.

After the determination of content may be taken up the question of origin; and this, like the other, must be argued on its own independent basis. Here too emerges the question of *dignity*, and it is legitimate to inquire how our view

of the one affects our view of the other. One thing, however, is altogether illegitimate, and that is, to take for granted that an experiential origin is *ipso facto* derogatory, and that "derivative" and "degraded" are in this connexion synonymous terms.

The relation between Virtue and Duty *as springs of action* may next be considered. If to act out of a sense of duty is simply, after all, to obey a command and so to be under constraint (as Kant says, "duty implies a constraint to something not voluntarily done"), while, on the other hand, to aim at Virtue is to attempt the realization of an ideal under the impulse of love,—these two things are obviously quite different as moral motives, and so the question must be discussed, What is the moral worth of each? and how far does the one lead on to the other? In other words, we must ask, Is it the case that "there is nothing in the world which can be termed absolutely and altogether good, a good will [*i.e.*, acting out of a constant regard to duty] alone excepted"? or is there such a thing as an absolutely good will in the world at all, and, if there were, would it express the highest form of morality for man?

A step further, and we are confronted by the relation between Virtue and Knowledge. This we isolate, not simply because of the historical importance of the question (dating as it does from Socrates), but also, and more especially, because of its great significance as bearing on life and practice. The question itself, however, assumes a variety of aspects, according to the meaning we attach to "knowledge" and to "relation". Is the knowledge thought of identical with intellectual enlightenment; or shall we re-

strict it to knowledge of the consequences of actions (effects on self, on others, or on both); or does it signify consciousness of what, in any given situation, is the right course to pursue; or is it to be taken as equivalent to wide experience and general culture? In none of these cases perhaps is it proper to say, without qualification, that "knowledge is virtue";* but in each case it can be shown that the connexion between virtue and knowledge is very intimate, and every aspect of it presses itself upon our notice. Again, we emphasize "relation," and we ask—Is knowledge that which stimulates virtue when it is feeble? then it stands in the relation of a cause to its effect. Or, is it that which enables us to determine the true place of self-sacrifice, when, in cases of conflict, doubts arise as to how far self-abnegation is legitimate? then it exercises the function of a guide, a regulator, a controller. Or, is it that which broadens our views and widens our sympathies? then it assumes the form of an educator, and has significance for Ethics inasmuch as broadened views make for unselfishness, and sympathy lies at the very root of virtue. The whole question is one of complexity, but one of high interest; and, as it touches conduct at so many points, it demands in all its branches the careful consideration of the moralist.

*Perhaps it is worth observing that the Socratic dictum that "virtue is knowledge," or, as otherwise expressed in the *Protagoras*, that "no one errs willingly,"—is differently interpreted according as we view it in the light of "the Choice of Hercules," or in the light of the teaching of certain other parts of the *Memorabilia* and of certain of the Platonic dialogues, or in the light of such a dialogue as the *Phædo*. In the first case, it preaches pure Egoistic Hedonism; in the second, it approaches the wider Utilitarian doctrine; in the third, it counsels contempt of the body and philosophic contemplation, leading naturally to mysticism in belief and to asceticism in practice.

So, too, with the fifth inquiry,—*viz.*, How fares it with Virtue when we view it in connexion with man's ideal future? In so far as this question is a purely speculative one, many may refuse to enter upon it. But, for all who have faith in the brightness of man's future, and who believe that self-sacrifice is the great means towards the desiderated end, the question is fraught with deep practical import. For the evolutionist, in particular, the consideration of it becomes imperative: and a similar inquiry presents itself to the Christian ethicist—in relation, of course, to the doctrine of immortality and “the new heavens and the new earth wherein dwelleth righteousness”. The practical value of it lies here, that men, as matter of fact, are greatly influenced in their conduct by ideals, and the power of an ideal in producing right living depends in turn on the degree in which it can commend itself to our acceptance (can fascinate or please), and on the strength of our conviction in the probability of its ultimate realization.

Perhaps I might stop here. But a sixth question becomes legitimate,—*viz.*, as to the right adjustment between the virtuous or self-sacrificing part of our nature and the egoistic or self-regarding. And this is the proper place for determining where the standard of adjustment is to be found—whether within (as in the Conscience) or without (as in the will of the Deity, the Sovereign, the State, &c.).

Now, I do not say that these six questions are all mixed up together in *every* English ethical treatise; but no English ethical writer is sufficiently careful and distinct at all points, while glaring instances of confusion are by no means uncommon. What we want is *first* a clear handling of the

notion ; *then*—after that, and in the light of that—separate discussion of the various allied problems. Only thus may we hope to attain clearness and precision, and to reach the end so much desired—the scientific treatment of the Ethical branch of mental philosophy.

II.

Closely connected with the preceding, and indeed part of the same process, but here kept distinct for the sake of emphasis, is—marking the exact sweep or scope of a problem. This takes a twofold meaning according as the problem is—(1) one referring to a definite subject, restricted to a single department of knowledge, but liable to being misunderstood because ambiguous in statement ; or (2) one referring to a subject which has various aspects and so may be treated of in various departments, the particular aspect under consideration being determined by regard to the department in which the question is asked.

(1) Suppose the question put, “Is or is not the Will free?” Our first duty is to ascertain, by a critical sifting of the spheres of action, in what spheres Liberty can with plausibility be said to reside and in what spheres it cannot be allowed a footing : otherwise, we run the risk of falling into either of the two extremes—giving an over-extension to the question, or narrowing it too far. We over-extend it, when we fail to perceive that freedom is conditioned by consciousness, and that all unconscious and all sub-conscious actions are excluded from our consideration. We over-restrict it, when (with Cicero, Kant, Hamilton, and many moderns) we tie down the question to *moral* liberty—to

freedom from the bondage of the animal or lower principles of our nature and submission to the moral law ; forgetting that Consciousness is wider than Conscience, and that moral freedom does not exhaust the matter. Again, we over-extend it, when we treat Consciousness of freedom as identical with Conviction of freedom ; for, not only are the two things entirely different in themselves,* but the latter is far wider than the former. We unduly limit it, when we confine the point to one single kind of act, *e.g.*, deliberation. Before we can hope to attack successfully the problem, "*Is the will free ?*" we must first settle with ourselves the preliminary inquiry, "*Where*, on the supposition of freedom, are we likely to find it ?"

Similarly with the question, "What is the ultimate ethical end ?" Apart from the ambiguity residing in the word "end," † this is most commonly regarded as equivalent to

* Consciousness *accompanies* an act of choice, Conviction *follows* it ; and, whereas the former is most vivid during a conflict or struggle, it is after the conflict is over and we have lost—in other words, it is when we begin to upbraid ourselves for having yielded to temptation,—that our conviction is strongest that we might have done differently from what we did. Moreover, conviction has also a forward reference. I am convinced of my ability to do such and such a thing to-morrow, or to resist an approaching temptation ; but alas ! when to-morrow comes or the temptation arrives, I find myself powerless. Past and future both belong to conviction ; consciousness is concerned solely with the present.

† It may mean—(1) that in which (when attained) we rest satisfied, as when it is said (by Butler, for example) that food is the end of hunger or virtue the end of conscience ; or (2) that which is never itself a means, but for the sake of which all else is done ; or (3) the ideal which we set before us, and towards which we are ever approaching, but which we never reach.

the other, "What do men consciously set before them as their ultimate end?" But a moment's reflection will suffice to show that the two are by no means identical; and that the ultimate end need not be, and is not, something of which we are uniformly conscious,—in other words, something that a man aims at, and of set purpose pursues, every moment of his existence. On the contrary, a man is nothing apart from his character; and, as character is itself in great measure a congeries of habits—as it is a product, a formation, something that is built up through time and energy,—the range of conscious purpose, even in morals, must be limited, and the real actuating principle may in many cases remain unperceived. Moreover, we know from our own experience that the immediate springs of action are manifold and various, and that they stimulate to manifold and various ends. While at one time we are moved by a regard to virtue, we are at other times determined in our conduct by considerations of happiness or pleasure. So that it is not the circumstance of being a uniformly-present conscious motive that characterizes the ultimate end: and this consideration must be kept in view if we would determine the character and nature of the *summm bonum*.

In like manner, Psychology and Logic both afford us abundant illustrations; but examples need not be accumulated.

(2) The second class of questions is not less important. Take first the Concept or Notion. It falls to the province of Logic to consider the formation of the notion, in so far as

it is concerned with generalization, and in so far as it bears upon the two important processes of Definition and Classification—the latter including, or reposing on, Division. But when you go beyond this, and raise the controversy of Realism *versus* Conceptualism and Nominalism, you have trespassed on Psychology and Metaphysics.

It is not otherwise when we turn to Judgment. This subject has well-marked aspects—so many of them logical, so many metaphysical, and so many psychological : but it is the tendency at present to mix them all up together, and to relegate the discussion of them to Logic. Particularly observable is the tendency to raise metaphysical issues—as, for instance, what the ultimate subject in a proposition is—whether a reality or simply an idea ; and, if the former, whether the reality of presentation or merely the reality as something given in this, yet in itself unattained and unattainable. This innovation we probably owe to the influence of Hegel, and it can be accepted only if we be prepared, like Hegel, to identify Logic with Metaphysics. With equal reason might we raise in Logic the discussion as to the Origin of Knowledge, for this question undoubtedly implicates the logical doctrine of Judgment, and, apart from the distinction of analytic and synthetic propositions, could not be argued. But the metaphysics of the subject is one thing, and the logic of it another ; and it does not conduce to intelligibility to have them both confounded.

Equally irrelevant is it in a logical treatise, to raise the question of the Association of Ideas, or the question as to the Relativity of Knowledge. Although both of these have distinct logical bearings, and although our mode of regarding

them will inevitably affect our treatment of Logic itself, nevertheless the full discussion belongs of right to Psychology, and to transfer it to Logic is simply to burden one province with the subject-matter of another, and thereby to remove boundaries and obliterate distinctions that can alone secure successful exposition.

Passing next to Ethics, we are met by similar confusion. Thus, in ethical discussion at the present day, Morality and Free-will are often inextricably blended ; and the result has been confusion worse confounded. The earlier English moralists knew better. Shaftesbury, the framer of the moral-sense theory, has no handling of the free-will problem at all ; and he is followed almost exactly, in this respect, by Hutcheson. Both saw that Conscience, Right and Wrong, Duty, Obligation are what they are whatever be our teaching as to free agency ; and one need never expect either clearness or precision in Moral Science until the earlier position be reverted to. Similarly, Ethics and Sociology are near of kin ; but they must not be identified. The present tendency is to obliterate the lines of demarcation between them and to absorb the one in the other ; and, in proportion to the strength of the destructive force, should be the vigour of the resistance.

Again, leaving Ethics, let the question be asked, "How do we know Mind?" This question is susceptible of various modes of treatment, according to the province in which it is put or to which it is understood to refer. If it is asked in Psychology, then very naturally the answer lays the stress on the subjective or introspective method—on the examination and interrogation of individual consciousness,

—and allows only a secondary (albeit a very important) place to the objective method, or attention to the outward expression of mental characteristics in others. If, on the other hand, it is put in connexion with Evolution, then the emphasis is necessarily laid on the objective method—on the study of mental expression in other sentient beings, more particularly in the lower animals or brute creation. And if it be put with special regard to Education and the teacher, then the objective method still occupies the prominent place ; only, the expression watched and the mental growth registered are mainly those of young folk and children. Everywhere, in cases such as these, there is need for a scrupulous application of the analytic *distinguo* ; and for want of this, ambiguity creeps in and confusion prevails.

So with other branches of mental science. There is chaos at present as to boundary lines ; and, although there will always no doubt be a disputable margin at the confines of every province of philosophy, the general territory need not be other than well-marked, being clearly enough ascertained ; and unless this general territory be definitely recognized and strictly guarded, neither clearness nor progress can be looked for or demanded.

III.

Up to this point we have considered the Separation of Questions as a logical operation having for its end two distinct things,—*viz.*, propriety of exposition and security against irrelevant criticisms. But there are certain problems that stand by themselves, and ought to be kept distinct, for a further reason. These deal with the Ultimate, and, being

ultimate, are simply not to be discussed, but to be started from. A due regard to this fact would have spared us many a dreary page and many a weary hour.

The doctrine of the ultimate is transgressed in two different ways :—(1) by the tendency to ignore the fact that there are limits to inquiry ; (2) by attempting to combine contradictories, or to bring into union things that are incommensurable.

The first of these tendencies is seen in such a case as the following :—Man craves for happiness. This is an ultimate fact. But many go on to ask, *Why* should he crave for happiness ?—and insist upon a further answer than the bare statement, Because such is his constitution. In this, they push the matter beyond what is legitimate ; and, if they will not rest at the point where nature has placed the limit, they can hardly complain if they land themselves in perplexity. Again, in the case when (either in opinion or in practical affairs) we have only probability to guide us, it is reasonable to accept that course or to adopt that opinion which has the greatest amount of probability in its favour. But if you demand, “Why is it reasonable to do this?” I can give no other answer than the simple one, “So it is, that two is greater than one”. Again, it is the same kind of transgression when we ask such questions as :—Why should health be preferable to sickness, sanity to insanity, freedom to slavery, reason to appetite, virtue to vice ? On all hands and in every sphere, we reach the point where the question “Why?” becomes inappropriate, and where we must simply rest contented with a knowledge of the fact.

The second tendency is also very frequent. For example:

that pleasure is attractive while pain repels, is one fact of nature, well-ascertained and indisputable. It is indisputable, also, that the conclusion of a syllogism flows at once from its premisses, and that one train of reasoning follows from another by a necessary sequence. But what commensurability is there between pain and pleasure as motive powers in human action and the bare intellectual process of deduction or syllogizing? The one is an *emotive*, the other an *intellectual* fact; and there is no propriety in classing the two under one head (as has sometimes been done) as regulated by Necessity. In like manner, the passage of the Ego to the Non-Ego in External Perception is the *crux* of metaphysics. There is also in Ethics the passage of self-love to love of others. But the first is a thing of the *head* and the second is a thing of the *heart*; and, however interesting the analogy between the two is, it is impossible to assimilate the one to the other, and to include them both in a common explanation. So, in other questions where contradictories are attempted to be combined, or where things are brought into conjunction which are really incommensurable.

Be it observed, however, that the ultimate has two senses. It is either that which is *absolutely* fundamental, or that which is fundamental only for the particular science or department under consideration. The absolutely fundamental is that beyond which we cannot get, and which (whether we be dealing with philosophy itself or with a special department of it) when we try to reduce it, lands us in contradictions or in vacuity. The relatively fundamental is seen when the ground-principles of one department find their justification in another; as when Logic reposes

on Psychology, or Psychology points back to Metaphysics. Examples of the first alone need here be given.

We commence with the doctrine of Relativity (in its sense of Correlativity*), and we find that this is absolutely fundamental. All conscious experiences implicate a change of state; discrimination is indispensable. But discrimination supposes agreement; without similarity there could be no idea of difference. This then is something that we must simply begin with. When, therefore, we go further and inquire,—Which of the two, at the first start of consciousness, is prior in the order of time? in other words, Does similarity precede difference or difference come before similarity?—we ask a question that from the very nature of the case admits of no solution. In the primary consciousness, according to any idea of consciousness that we are able to form, the two elements are found conjoined; and the conjunction is the point of departure for psychological reasoning.

Not greatly different is the question—What would our conception of colour be, supposing the primary colours had been other than they are? We have indeed room for speculation here, but we need never expect a definite or solid result. Our experiences are such and such, whether we will or not; and it is quite hopeless to try to get beyond experience. As we cannot stand upon our own shoulders, it is mere waste of time to speculate on what the consequences would be supposing we could. But if we do speculate, let us quite understand that the opera-

* The other sense, of course, is the finiteness or limitation of the human faculties.

tion has only a dialectical value, and let us cease claiming for it the place of a healthy and sober exercise.

We have the fundamental, again, in reference to Memory. The trustworthiness of this faculty (when duly limited) is a psychological postulate ; and it is so, because we cannot help ourselves. Every attempt to prove it utterly and unconditionally untrustworthy is glaringly suicidal ; for it can only proceed by assuming the veracity of that whose falsity it intends to establish.

In the same category is to be placed the dependence of Thought on Language. That the two progress together, that the growth of the one means the growth of the other and *vice versa*, has been proved to demonstration. But to ask whether the one could exist without the other is really to put a meaningless interrogation. There are no data which, however adroitly manipulated, can authorize us in returning a dogmatic answer.

It is nowise different with the celebrated Laws of Thought. These are nothing if they are not fundamental, and, in the last pinch, you can only say they have to be taken for granted. The Mind being what it is, Reasoning can only progress upon certain assumptions : and if you refuse these assumptions, you simply exclude yourself from reasoning, and are made welcome to a substitute, if you can find one. This is altogether different, of course, from the question whether in any given instance these laws have been actually outraged. Not only may this second question be asked, but argued too ; yet the final test is precisely those laws that for thought are fundamental.

Similarly in Ethics. There is a certain amount of ethical doctrine that we must be contented to start from as a basis. Of this nature are the two principles Self-love and Benevolence (Egoism and Altruism). Each of these is primordial in the human constitution ; and any attempt to prove the existence of either of them, or to resolve the one into the other, is foredoomed to failure. Hence the collapse of Butler's argument (as developed in the *Sermons*) about what, since Price's time, has come to be known as the Object of Desire—if that argument be taken, as a demonstration of the existence of disinterested regard. That it was so understood by Price, is clear and evident from the *Review* : but it may very much be doubted whether Butler himself actually intended it to be thus taken. Rather, his attitude (so it seems) was something different. Accepting the existence of both disinterested and self-regarding motives as facts of our constitution, he set himself to show, by means of his doctrine of desire, that there was really no inconsistency or contrariety between the one fact and the other. Here (he said) is self-love (one fact of our nature) whose object is internal, *viz.*, our own happiness. Here, again, is benevolence (another fact of our nature) whose object is external, *viz.*, the happiness of our fellows. But besides benevolence, we have other facts of our nature (*viz.*, particular appetites, passions and affections) whose object is external—hunger, for example, whose object is food. In this respect, therefore, benevolence agrees with these (*its* object, like theirs, is external), and so has to be affiliated with these. But if so, there can be no greater contrariety between self-

love and benevolence than there is between these and self-love. But nobody maintains that there is any contrariety between self-love and these. Therefore, nobody has a right to maintain that there is any contrariety between self-love and benevolence. Whatever may be thought of this as proof of the thing we have supposed Butler to intend, it obviously is no proof of the existence of disinterested motives ; and proof of this (in the strict sense of the term) is impossible.

Hence also the futility of attempts to reduce Virtue to a single principle of our nature. It is only by sleight of hand that either the pure egoist or the pure altruist is able to give anything like plausibility to his doctrine—only by surreptitiously introducing the element or principle that he began by excluding. Is regard to one's own interest set forth as the sum of virtue ? Then this personal regard is forthwith identified with prudence, and prudence is used convertibly with self-love, and self-love is defined as a rational principle, and reason *for the individual's good* inculcates a regard to others. Or, is the whole benevolence ? Then benevolence (we are told) must be taken as directed by reason, and reason includes conscience ("Rationality," as Butler says, "including in this both the discernment of what is right, and a disposition to regulate ourselves by it"), and conscience "discerns" prudence to be right : and there you have it.* *One* principle is clearly insufficient. We are neither all egoism nor

* It is historically curious that Butler, while rejecting the doctrine that "Benevolence is the sum of Virtue" in the *Dissertation*, frequently accepts it in the *Sermons*. See, for instance, *Ser. XII.* and *Ser. IX.*

all altruism, and the great problem of Ethics really is, *not* how to resolve the one into the other, but how to balance these two principles, neither submerging the one nor over-exalting the other.

So too, again, it is the error of misconceiving the ultimate when the attempt is made, as it so frequently has been, to resolve Man into a purely rational being, forgetting that he consists of a heart as well as of a head, of desires and affections no less than of thoughts and ideas. And the same mistake has been committed, but on a vaster scale, by those moralists who run ethics up into religion, and set forth the Deity Himself as pure Reason. Nothing could be more one-sided or more erroneous. If, as Price asserts, "it is the chief glory of God that he is removed infinitely from the possibility of any other principle of action," the theism of the present day (founded as it is upon the notion that "God is *Love*") is false indeed, and there is little hope of any union between it and this hard and uninviting doctrine.

Some questions then are ultimate, and ought to be treated as such. But these ultimate questions obviously require a test ; for, without a test, we run the risk of erecting into the ultimate whatever we please. What then is the test ? It can be but one thing—Experience. That is ultimate which, accepting experience as our guide, cannot be reduced into anything simpler : whenever we can resolve

In this last he says—"That mankind is a community, that we all stand in a relation to each other, that there is a public end and interest of society which each particular is obliged to support, is the sum of morals".

a question into one more fundamental, that (still trusting to experience) is derived. But experience varies ; and so, questions that are ultimate now may cease to be ultimate hereafter? Possibly enough, they may : but *until* they do, we must just accept them as given ; and *when* they do (if ever), the ground, and therefore the justification, of the change will be experience still. *A priori* reasoning is a help indeed ; but only after we have already reached certain conceptions (such as those of mind and human nature) *à posteriori*. And this we may rest assured of, that whatever reasoning leads us into contradictions or into impenetrable haze is *ipso facto* stultified : it stands self-condemned as illusory and inept.

IV.

A word is due on what I may call *needless* or *superfluous* Questions. These, technically expressed, are questions of *modality*, introduced into spheres where they are not necessary. Thus, *when we are in search of a thing*, it is all very well to inquire the probabilities regarding its existence,—whether it is *possible*, *probable*, or *certain*. We need, also, to weigh degrees of evidence where judging is concerned, or where we have to make up our minds as to the likely results of an untried course of action. But when results are known, or when we have actual possession of a fact, all such questions become unnecessary. Once grant that there is such a thing as Happiness, or as Duty, and, although you may lawfully enough dispute as to the full and correct analysis of these conceptions, it is ridiculous to ask, Whether the conceptions themselves

questions as of ignoring or avoiding the
reference is all that is here required.

CHAPTER IX.

STATEMENT OF QUESTIONS IN PHILOSOPHY.

THERE can be little doubt that the correct putting of a Question is half the solution of it. Many of the perplexities and misapprehensions in Philosophy may be traced to badly-put questions, and the want of a thorough training in the modes of interrogation and reply has led some of our best writers into errors and confusion. In this respect, we compare rather unfavourably with the ancients. Whatever be the defects of the *Analytica* and the *Topica* of Aristotle and of the disputations of the Schoolmen, they had both this merit, that they sharpened the intellect and set one to watch against word pitfalls and ambiguities of expression.

In the previous chapter, while treating of the Separation of Questions, it was not possible altogether to omit consideration of the way in which they were expressed. But, as this latter is a thing of considerable importance, it may be well to isolate it, and to give it a somewhat fuller handling than has yet been accorded. Thus only is it possible to expose adequately the leading Fallacies of Definition.

I propose, then, to consider several of the chief modes in which Questions may be misleading from being badly put.

I. The first that I shall mention is this :—

Questions may mislead from being *too vague*.

The question is sometimes asked, Is Justice better than Generosity? As thus framed, no answer is possible, until first you have defined the sphere to which the question is restricted. "Better," I ask, "*to whom or in what connexion?*" If you are thinking simply of the judge, then it may be affirmed, that, as the judge's duty is to administer justice, justice to him is unquestionably better than generosity, and, in *his* sphere "Be just before you are generous" certainly holds, and that without exception. If, on the other hand, you have in view a person who has it in his power either to remit a debt or to exact to the uttermost farthing, and if the point for determination is, "Whether, other things being equal, the generous or the severely strict disposition is the more amiable and the preferable,"—then the former answer will be reversed, and generosity, in this case, will be placed before justice. While, thirdly, if you be considering the respective consequences of generosity and justice on the recipients, the answer will be, that sometimes one is preferable, sometimes the other. There can be no profitable discussion of such an ambiguous interrogation, until first you have duly limited and circumscribed it; only when duly limited and circumscribed, need a satisfactory conclusion be looked for.

Again, such a general question as this, "Can Virtue be taught?" cannot be settled off-hand either by a distinct negative or a distinct affirmative, but needs first to be analyzed and determined. "What is the virtue," we ask, "that is here intended, and who are the teachers into whose

hands may be entrusted the educative operation?" And until we get this clear, we cannot profitably proceed.

Hence the difficulty that some have found in understanding Socrates' position, as given in the Platonic dialogues, regarding this matter. Conformably with the Socratic dictum that "vice is ignorance and virtue knowledge," and conformably with the Socratic method of cross-examination, the only consistent attitude is to maintain that virtue *can* be taught; and this accordingly Socrates most emphatically does. But, in one part of the *Protagoras*, he seems to maintain the opposite opinion and to defend the dogma that virtue is unteachable. The explanation is, that he has there in view a particular kind of virtue (the political) and a particular class of teachers (the Sophists), and there is no inconsistency between his general position and this more special one: both alike are true.

One great source of ambiguity in stating a Question, then, is vagueness of expression: and, when difficulty meets us arising from this cause, our first duty is to *fix the universe* of the Question; no progress can be made until we have first determined precisely the ground intended to be covered.

II. The terms of a Question (one or more) may be *equivocal*.

A good example has reference to Perfection. Those who place the chief end of man in Perfection need to explain the term to us before we can either accept their position or reject it. For, "perfection" may mean either an ideal state, the highest conceivable by us, present to the imagination,

but never yet realized, and with no guarantee as to the possibility of its realization ; or it may mean the full or perfect exercise of all the faculties with which man is endowed, the result of a perfect adaptation of being and environment, towards which there is more or less evidence that man is steadily tending, and, therefore, a greater or less presumption that he will one day attain it. You might be disposed to acquiesce in the second, while refusing to accept the first ; and if, without the needed explanation, I, with the *second* conception in my mind, were to agree to the dictum that perfection is the end of man, this may be taken as assent to an entirely different proposition by another who has only the *first* conception in his mind. Between me and him there is a superficial agreement, with an essential or substantial difference.

Again, the words Materialism and Idealism, which are so freely bandied about now-a-days, are in the highest degree equivocal, and any questions put regarding either must first be cleared by the necessary distinction. Materialism is the name—(1) for the doctrine that maintains “matter” to be the sole reality in the universe, and which reduces “mind” to a mere function of matter ; or (2) it denotes a special solution of the problem of the external world which has not (or need not have) any “materialistic” implication in the previous sense of the term at all ; or (3) it stands for the antithesis of Theism, and then signifies that explanation of the universe which excludes the conception of a God. By Idealism, on the other hand, is signified—(1) phenomenism or the doctrine that mind can never transcend itself, that all objective knowledge is conditioned by the (subjective) Ego, that the external

world is a mode of consciousness ; or (2) the doctrine (to quote Principal Caird's words, *Introduction to the Philosophy of Religion*, Ch. VII., p. 205) "that both mind and matter, self and not-self, intelligence and its objects are, taken in isolation, nothing more than abstractions, that they have no conceivable existence save in opposition and therefore in relation to each other, and that a self which does not refer itself to that which is not-self, a not-self which is not for a self, is as much an impossible notion as an inside without an outside, an upper without an under, a positive without a negative" ; or (3) a doctrine of the origin of knowledge,—that doctrine, namely, which traces knowledge to the higher Reason, and which gives to it, as thus acquired, the characteristics of universality, necessity and certainty. Any question, therefore, regarding Materialism or Idealism must first be cleared of the ambiguity attaching to the words employed.

So, too, with Evolution. If asked whether I accept the doctrine of Evolution—say, in the sphere of Religion,—I answer by asking in turn what kind of Evolution is intended. For, Evolution may signify—(1) the bare origination of one thing from another, or (2) advance, progress, the production of a higher state of things from a lower. And, according as we have in view the one meaning or the other, we may be stating an unquestionable fact or giving utterance to a very doubtful proposition.

This then lays down our second duty regarding the handling of questions,—*viz.*, *make clear the signification of the terms.*

III. Questions may contain a *contradiction in terms.*

The question "Does there exist an external independent world—*i.e.*, a world outside of thought and apart from it?"—is really one where, with all the *prima facie* appearance of sense, there is a contradiction in terms. For, what is "existence" apart from thought, or out of all relation to it? To say that it is a bare abstraction, would be less than the truth, for even an abstraction has being for thought. It is a pure non-entity inconceivable and unmeaning; and any attempt to place ourselves outside of existence and to determine from our coign of vantage whether an independent material world exists is palpably absurd.

Again, in answer to that theory of moral obligation which traces obligatoriness to the will of the Deity, it is asked, "Might not God, then, have made a human creature endowed with reason, knowing perfectly well that a lie is evil, and that truth is good, yet being under no obligation to tell the truth, and permitted by Him to lie?" The confusion here arises from not observing that the idea of God and the idea of a Creator working on a principle entirely opposed to this idea of God are two incompatible conceptions, and that the seeming force which the objection possesses arises simply from a juggle of words.

So, when St. Anselm (in his *Cur Deus Homo?*), in connexion with the position that "all power follows the will," affirms that Christ, though absolutely righteous, could have told a lie *if he willed*, but then immediately adds that, being absolutely righteous, it was impossible for Him so to will,—he falls into the mistake of attempting to combine contradictories. For, once posit the existence of an absolutely righteous character—one, *i.e.*, from which *inter*

alia the possibility of lying is excluded,—and it is not this character but another that you are thinking of when you ask, Could not the ideal righteous man lie?

There is also a contradiction in terms contained in the inquiry, so frequently made in connexion with Free Will—Whether such and such an act or choice could not have been different? The past is simply the past, and the attempt to suppose it other than it was is really to suppose a different past, with the whole motives and situation changed.

Again, in philosophies of the Absolute, it is a leading question, Is there a unity which lies beyond all differences? But “unity” is a word without any intelligible signification unless as the correlative of “difference”; and, although it may be quite proper to ask, “Whether there may not be a unity beyond this, that, or the other given difference”?—a unity beyond *all* differences is an impossible conception.

So, in questions relating to the connexion between Virtue and Happiness, there is frequently a subtle contradiction in terms, which is apt to deceive us unless we are specially on our guard. For, on the supposition that virtue is the final end of man, it is impossible to combine this proposition with the other, that virtue may nevertheless *sometimes* be sought as conducive to happiness; for the very meaning of “final end” is “that which is never a means, that for the sake of which all else is done,”—and we cannot both seek a thing for its own sake and with a view to something further at the same time. That “virtue is its own reward” is one position; that “happiness is the prize and aim of virtue” is quite another: and any Question that mixes up the two positions in the statement of it is self-contradictory.

A Question, then, must be examined with a view to determining whether its terms are not contradictory, as much as with a view to ascertaining whether they are not equivocal ; and hence our third caution,—*to watch against the error that lurks in this quarter.*

IV. But Questions may mislead us from another cause : they may be thrown into the form of *exclusive alternatives*, when neither alternative gives the solution of the problem.

In Ethics, it is often asked, Whether human nature is good or bad ? But there is a middle position, in which indeed the truth lies, but which seems, by the form of the statement, to be excluded. Human nature is neither good nor bad, but a combination of both ; and an unqualified affirmative, on this side or on that, is inadmissible.

So, to ask “Whether men are equal or unequal ?” is unmeaning, until first you have observed that they *may* be equal in some things (for example, their right to live and to enjoy life) and unequal in others (as, for instance, natural capacity, opportunities, &c.).

So, to ask “Whether man ought to live according to Reason or according to Sentiment ?” is to forget that man is a compound being, partly rational and partly emotive, and that his life does and ought to consist in the union of both.

Here, then, in dealing with philosophical problems, another necessity is laid upon us. We are to make sure that we have *exhausted the alternatives.*

V. Questions may be *put from a wrong stand-point* ;

in other words, they may repose on an inversion of the order of things.

A case in point has reference to Perception. Often it is asked,* Whether the phenomena of dreams should not shake our confidence in waking experiences? The reverse attitude should be assumed; for, waking experiences are the foundation and the indispensable condition of dream-life. No waking experiences, no dreams; but we cannot transpose the statement and say, No dreams, no waking experiences. Yet, unless this can be done, the question from dreams has no propriety.

So, disease is not the standard of health; and such pathological phenomena as those of insanity or of delirium cannot lawfully be used to shake our confidence in normal experiences or normal convictions. A case like the following (quoted in the *Spectator*, September 27, 1884) illustrates what I mean:—"‘I saw,’ said a friend of the writer, in describing the process of cure, ‘that all the inmates of the asylum where I was placed were no less certain of some delusion, which I saw clearly to be mere insanity, than I was of what seemed to me a fact, and by degrees, I came to the inference that my own conviction was of the same nature as theirs.’" The position here was clearly distorted, and life would be intolerable if we allowed ourselves thus to be carried away by "delusions".

The same applies to the false perceptions that go under the names of *illusions* and *hallucinations*; for a complete handling of which, the reader may be referred to Mr. Sully's striking work on *Illusions*.

* See Descartes, for example,—*Meditation VI*.

A fifth duty, then, becomes incumbent on us. We must *watch the standpoint* from which the question is put.

VI. Once more : Questions, while bearing the semblance of relevance, may be *in reality irrelevant*.

Put in a broad and general way, it is universally admitted that Thought is different from Feeling, and Contemplation from Action ; but not everyone observes the irrelevance of the question that is often asked, Which of the three (thought, action, or feeling) is the highest ? As each has its own sphere, and as the sphere of each is equally necessary and legitimate, the question, "Which is the highest ?" is simply not in place. It is like asking "Whether mental labour is more *honest* than manual labour ?" or, "Whether truth is more *elegant* than justice ?"

Again : plants, animals, and minerals have each their own value ; and, if we be considering their respective places in the recognized kingdoms of Nature, it is legitimate enough to ask, Whether, in order of dignity, the animal is not superior to the plant, and the plant to the mineral ? But the question is altogether unsuitable if we ask it with a view to comparing the three things *as to inherent excellence* (as is done in some ethical treatises—as, for example, Janet's *Theory of Morals*—and with an ethical purpose). The inquiry now becomes unmeaning and irrelevant.

Perhaps it is in Ethics where irrelevance of inquiry is most frequent and most conspicuous ; but it is not want-

ing in other departments of mental philosophy as well, and often comes considerably disguised and in a plausible enough form. Hence the sixth necessity—of being constantly on our *guard against irrelevance*.

CHAPTER X.

BIOLOGICAL DEFINITION.

DEFINITION, in its application to the Natural History Sciences, may be taken in one of three quite different significations. It may mean the explanation of the technical terms employed in the particular science or department under consideration; or it may mean the exposition of the keystone of the Natural Classification—the Graded system; or it may mean adducing the various characters that go to mark off the several groups at the different stages in the classifying scheme. The first of these is, strictly speaking, Terminology; the second is technically known as Nomenclature; the third alone is properly Definition. Still, it is not possible to handle the group-characters without an explicit reference to the technical language in which they are expressed. And so, I shall combine definition proper with so much of terminology as is necessary for the purpose in hand.

I. Biological Definition proper.*

Now Definition—thus understood as dealing with the “characters” of groups,—is either of two kinds, according

* See Chap. II., pp. 47-49, and Chap. III., pp. 63-66.

to the object we have in view. If we intend simply to aid identification, it will be sufficient to state the few leading characteristics (such as are obvious and readily recognized) that serve to distinguish one group from another,—in other words, the diagnostic peculiarities ; but, if we be guided by scientific purpose, then something fuller and more ambitious will be required—we shall have to exhaust the characters, and, in doing so, to attend to all the niceties that the subject matter admits of and that the logic of method demands. The first of these is indeed an affair of considerable importance, and ought certainly to have attention bestowed upon it, and to occupy a definite place in every text-book of botany and of zoology ; but the difficulties attaching to it are not great, and there is little risk, owing to its utility both to the teacher and to the pupil, of its being either neglected or inadequately handled. But the second is a matter of no small difficulty, and, as it demands in whoever attempts it the subtlety of the logician as well as the knowledge of the expert, it is apt to create interminable embarrassment and to lead to very unsatisfactory results.

Let us then concentrate our attention for a little on this latter, and see what principles are implicated in the process and how best we may deal with the difficulties that crop up.

1. Definition, as I have already said, has to do with the biological “character”. Now the word character, even in biology, is a term of equivocal import. It may stand for the single identifying peculiarity of a group—such as the basal gland on the petal of the ranunculus, or the pair of opposite lines of hairs on the stem of the Germander speedwell, or the

contractile chamber in the Infusoria, or the proboscis of the elephant, or the double hump on the Bactrian camel's back ; or it may signify the congeries of peculiarities that a group possesses and that need to be taken *in their totality* before you can have the full meaning of the particular assemblage—such as the five peculiarities of the class Dicotyledons (*viz.*, two cotyledons, exorhizal germination, exogenous growth [implying wood in a continuous ring, separable bark, and pith destitute of fibro-vascular bundles], reticulated venation, quaternary or quinary symmetry), or the four defining features of the class Mammalia (*viz.*, “two occipital condyles, with a well-ossified basi-occipital; each ramus of the mandible composed of a single piece of bone and articulated with the squamosal element of the skull; mammae; and non-nucleated red blood-corpuscles”). Perhaps little inconvenience arises in practice from this double usage; but, to obviate all ambiguity, the word “mark” might be employed to designate the *sum* of the distinguishing features (in which case, instead of speaking of a class-*character*, a generic-character, a specific-character, and so forth, we should say a class-*mark*, a generic-mark, a specific-mark, &c.), and then “character” would be applicable to any one of the mark's constituents, and the sum-total of characters would be the mark proper.

But a point of more importance arises when we come to consider what characters are worthy of being regarded as indispensable to the mark. Are the necessary constituents simply those that are possessed by every member of the group? or shall we further include such as are shared by the majority of members, though not by all? No doubt the distinction between *universal* and *general* characters would

be a very desirable one, if only it could be kept up. But, unfortunately, it is not workable. In many species and genera, indeed, it might be pretty rigorously applied (and there it should be unhesitatingly adopted), but it fails when we reach the higher grades—classes, sub-classes, &c. Thus, for instance, to begin with Botany. There is not a single character in the class Dicotyledons that *all* dicotyledons have in common. Even the fact of dicotyledonism fails in the case of the Dodder, which is *acotyledonous* (though not, of course, after the form of the *Acotyledonia* or *Cryptogams*), and in *Abronia*, which is *monocotyledonous*; and, if we include Conifers and other Gymnosperms in the class, we have a large group of *polycotyledonous* plants. But if dicotyledonism fails, much more does every other character as yet discovered; for there is no other known fact of equal generality with it. The mode of growth varies to an indefinite extent; so does the venation; so does the floral symmetry. Neither, on the other hand (to take an example from Zoology), does the primary division of animals into Vertebrates and Invertebrates represent more than a generalized fact. There are rudiments of a back-bone among certain of the invertebrates, and the Lancelet or little *Amphioxus* holds its position among vertebrates by a rather uncertain tenure. Universality, then, is a thing not to be thought of, and, however reluctantly, we must bring ourselves to rest satisfied with bare generality. Yet care should be taken that the generality is real, and not merely apparent; for a feature may be striking, and may be shared in by a large number of animals or of plants, and nevertheless this large number may be simply the minority. There

is nothing but a *quantitative* measure to go by, and a *general* character is the same thing as a character possessed by the majority of members.

Under these circumstances, various things become necessary. It is indispensable—(1) to exhaust the characters at every grade, in so far as this is possible; (2) to indicate the exceptions, when the characters are not absolutely universal, or, where it would be too cumbrous to give a full enumeration, to supply good typical instances; and (3) rigorously to exclude from the defining mark of a grade irrelevant characters—*i.e.*, (*a*) every particular that properly belongs to the grades subordinate, as well as every particular that has been embodied in the grades superordinate; (*b*) contradictory opposites put in the form of alternatives, as when we are told that a group of plants is characterized by leaves “divided or entire,” or by flowers “regular or irregular,” or by stamens “indefinite or definite,” which is very much like saying that the distinctive feature of men is “having beards or being without them”.

And, indeed, a plausible objection may be raised against giving alternatives as characters at all; for, strictly speaking, no alternative can characterize. A fact is never an alternative: in other words, a thing is what it is, a definite something with definite and positive qualities; and so long as it continues to be that thing, it is not and cannot be anything else. Hence to say of a group of plants that it has flowers red or white or yellow, for instance, is so far not to ascribe one positive attribute to its members, but to give us a choice of several; and, so, in

strictness, is not to characterize. Neither do we, strictly, characterize when we say of the Lamellibranchiata (among animals) that they have a heart consisting of either two auricles and one ventricle, or one auricle and one ventricle, or two auricles and two ventricles (forming really two distinct hearts), or of the Gasteropoda that their shell is either univalve or multivalve. But then, on the other hand, if our alternatives be exhaustive, there is no question that we do obtain from them some positive information. Although we may not be able to say offhand what the colour is in the flower of any given member of a group of plants, it will always be something if we can with confidence affirm that it will be one of a limited number—red or white or yellow, and not blue or pink or green; just as we convey a piece of definite information when we limit the kind of heart among the Lamellibranchiata to three, thereby excluding a fourth possible combination of auricle and ventricle, *viz.*, one auricle and two ventricles,—or when we tie down the Gasteropods to a shell of one valve or of many valves, shutting out the bivalve form, which is never found here. Hence, in this sense—*i.e.*, if we can exhaust the alternatives at any particular stage,—we may enumerate them as a character; but if we fail to exhaust them, or if we deal in contradictory alternatives, we have no right to adduce them as a character or to present them as part of the defining mark.

Well, then, to return to our three defining requisites, I shall try to make my meaning plain by a few intelligible examples.

And, first of all, to begin with botany, and not to go higher than Orders, let us take the Ranunculus Family or Ranunculaceæ (including the Buttercups, Larkspur, Aconite, &c). Applying our rules, we find that the mark should run as follows :—

“ *Herbs* (except Clematideæ) with acrid watery juice ; *leaves*, radical or alternate (except in Clematideæ), exstipulate (except in some of the Thalictra) ; *sepals* imbricated (except in Clematideæ), deciduous (except in Oxygraphis, Helleborus, and Pæonia), more than two, petaloid (except in Ranunculeæ) ; *petals* imbricated, anomalous in Aconitum, Delphinium, and Aquilegia, wanting in Clematis, Anemone, Trautvetteria, Caltha, Calthodes, Glaucidium, and Hydrastis ; *stamens* numerous (except in Myosurus) ; *anthers* dehiscent longitudinally ; *pistil* apocarpous ; *ovules* anatropal ; *carpels* free, numerous (except in Actaea), unilocular ; *fruit* achenes or follicles (coherent in Nigella) or berry (in Actaea) ; *seeds* without an arillus (except occasionally in those with follicles) ; *testa* in monosperms slightly coriaceous, without prominent raphe,—in polysperms crustaceous, with raphe rather prominent ; *embryo* minute, at base of albumen.”

In like manner, if we turn to the tribe Ranunculeæ, we shall find the Tribal mark, as distinguished from the others subordinate and superordinate, to be :—“ *Flowers* regular ; *sepals* green ; *petals* coloured (rarely, e.g. in Ranunculus auricomus, unequal) ; *carpels* developing into achenes, with *ovule* ascending”.

Similarly with the genus Ranunculus. We find here a distinctively generic mark,—a mark that neither repeats

the distinguishing features of the Tribe, the Order, or the Cohort, nor trenches upon the *differentiæ* that separate the various species of Ranunculi from one another ; and this generic mark would run :—" *Stems* hollow ; *leaves* sheathing at base, divided to a greater or a less extent (except in the Spearworts) ; *sepals* 5, sometimes (as in *R. Ficaria*) 3 ; *petals* 5, sometimes (as in *R. Ficaria* again) more, each with a hollow spot (nectary or gland) near the base or inner surface, colour yellow, or limb of petal white or red ; *carpels* in a globular head".

Now in all this I have aimed at three things. I have tried—(1) to include in a grade-mark only what ought to be included ; (2) to take in everything that may rightly claim a place ; and (3) to indicate degree of generality by noting exceptions. And the full significance of what has thus been done will best be seen if, with a view to comparison, we turn to any of the well-known botanical authorities, and observe their defects in method. These defects are precisely those that I have attempted to avoid. Irrelevant characters are ever cropping up, even in the best botanical works—characters that either have not the degree of comprehensiveness that the particular grade indicates, or are repeated from some of the higher grades that have gone before, or else characters in the form of mutually exclusive alternatives ; little or no attempt is made to denote generality ; and lists of characters are given that are altogether inadequate and imperfect. Let us take an example from Bentham and Hooker's *Genera Plantarum*, for there is nothing like exemplifying from the best available sources ; and if the best, when weighed

in the balance, are found wanting, it is an argument *a fortiori* as to the remainder. I begin with the Tribe Ranunculeæ, whose definition is given thus: "*Sepals** imbricated; *carpels* uniovulate; *ovule* erect, with ventral raphe; *achenes* indehiscent; *herbs*; *leaves* radical or alternate".

Now the first thing to be remarked about this is, that we have here both too much and too little. Too little; for the list is incomplete, inasmuch as no notice is taken of the regularity of the flowers (which is indeed a tribal character), or of the tribal peculiarities of the sepals and petals. Too much; for characters are here set down as tribal which have already been adduced as ordinal. For turn we to the order Ranunculaceæ, and what do we find? We find *inter alia* that it is characterized by—"sepals imbricated, achenes (when present) indehiscent, *habit* herbaceous, and leaves radical or alternate"; in other words, three at least of the characters adduced here as tribal are not tribal but ordinal. Moreover, "indehiscent" achene is a tautology, inasmuch as the very meaning of the word achene is "a one-seeded indehiscent carpel".

Regarded, therefore, from the standpoint of Method this tribal definition is vicious in the extreme, and, to any one trusting for instruction simply to the book, misleading.

It is hardly different when we examine the Ordinal mark itself. Here we have both superabundance and deficiency. Serial and Cohortal characters are reproduced

* I *italicize* the organs for the convenience of the eye, although this is not done in the *Genera Plantarum*.

as Ordinal ; we are treated to the contradictory alternative ; and various characters (such as " anthers innate ") will not stand the application of the quantitative test.

A similar criticism holds when we advert to the genus *Ranunculus*. Much that is properly Tribal, and much that is Cohortal, are here mixed up with what is strictly generic ; while several Generic characters are conspicuous by their absence. Further, we have more than one striking instance of the absurdity of contradictory opposites.

But, lest I should appear to exaggerate, it may be well to give Bentham and Hooker's generic mark *in extenso*. Here it is, with the added strictures enclosed in square brackets:—

" *Sepals* 3-5, deciduous [this last is Ordinal] ; *petals* as many or more (up to 15), with basal gland or fovea, with or without a scale [contradictory alternative, hence no character at all], conspicuous or more rarely minute ; *carpels* indefinite ; uniovulate [tribal] ; *ovule* ascending from base of cavity [tribal] ; *achenes* capitate or spicate, apiculate with short or very short style, or beaked with longer. *Herbs* annual, or very often possessing a perennial stem [ordinal] ; *leaves* entire or cut [contradictory alternatives], cauline very often with few divisions ; *flowers* [should be *petals*] white [only in limb], yellow or red [*flowers*], terminal, solitary or paniculate, more rarely sessile in the axils of the twigs ; *stamens* shorter than the sepals or the petals, very frequently numerous [ordinal], sometimes in small-flowered species very few in number ; *achenes* compressed or subglobose, smooth or variously striated, ribbed, wrinkled or prickly."

It needs only a glance at this list to see how mixed and unsatisfactory it is, and how multifariously it transgresses

the laws of methodic procedure. Omissions also may be detected in it: *e.g.*, no notice is taken of the hollow stem, and we are not told on which surface of the petal the gland is found.

One strong feature, however, of the *Genera Plantarum* (from the side of Method, of course) is the scrupulous and consistent noting of exceptions. But surely the plan would be more effective if these exceptions, instead of being relegated as "Abnormal Forms" to a concluding paragraph and printed in small type, were inserted in the Definition proper. Thus only, as we have already seen, can degree of generality be indicated in a way that shall be clear and satisfactory.

Many of the merits of the *Genera Plantarum* are reproduced by Hooker in his *The Student's Flora of the British Islands*; but, unfortunately, the defects are there too, and several additional ones are very conspicuous. Not only is the Manual less full than the larger work (which, considering its object, it could not fail to be), but it does not show the same care either in exhausting the fundamental characters or in manipulating exceptions. It will be sufficient for our purpose if I refer to the order Scrophulariaceæ with its genus *Veronica*. The Ordinal mark, as applicable to British plants, should, according to our principles, run thus:—

"Herbs or shrubs; *stems* rounded (except in *Scrophularia*, *Bartsia odontites*, and *Rhinanthus*, where they are angular); *leaves* exstipulate; *calyx* persisting round the fruit (as in the *Labiates*), usually with 5 teeth or segments, sometimes (as in *veronicas*) fewer; *corolla* gamopetalous, usually 2-lipped, petal 5 (but sometimes, as in *veronica*, apparently 4, nearly

regular), imbricated in bud; *stamens* usually 4 (didynamous), 2 lateral in veronica and 5 in verbascum, inserted on tube of corolla; *fruit* a capsule, which (like the *ovary*) is 2-celled, with several seeds in each cell, placentation axile,—rarely a berry; *seeds* with fleshy albumen; *style* simple, usually ending in a 2-cleft stigma.”

But if we turn to Hooker’s description, we find:—(1) No reference made to the *stem*, with its exceptions; (2) no notice taken of the fact that the *calyx* is sometimes (as in Veronicas) *not* 5-merous; (3) the number of *stamens* set down as “4, rarely 2 or 5, didynamous, with or without a rudimentary fifth,” which is certainly not a satisfactory way of representing it; (4) under *fruit*, the non-ordinal character given “dehiscence various”.

Turn now to the genus *Veronica*. The generic mark would run as follows:—“*Stems* woody, solid; *leaves* those of the stem opposite, floral ones usually alternate when the flower is solitary and axillary, but opposite when the flower is a raceme; *flowers* small, in either terminal or axillary racemes, or solitary and axillary; *calyx* with 4 segments, nearly equal, very often longer than corolla; *corolla* rotate, deeply 4-cleft, with lowest segment narrowest and upper one widest (of 2 closely coherent), colour blue or white or pink or streaked; *stamens* 2, lateral; *capsule* flattened laterally (at right angles to partition) and dehiscing at the edges; *seeds* not very numerous, although in some species (*e.g.*, Thyme-leaved speedwell) more numerous than might be expected from the small size of the capsule, ovoid or orbicular.”

The defects of *The Student’s Flora* at this point are similar

to those in the case of the Order. In the Manual, we have—(1) repetition of the ordinal character “herbs or shrubs”; (2) the inadequate characterization of the *leaves* as “lower or all opposite, rarely whorled,” and of the *flowers* as “in axillary or terminal racemes, rarely solitary”; (3) the *flowers* set down as “usually blue, never yellow,”—which of course does not apply to the *flower* but simply to the *corolla*; (4) the remark that the calyx is “4, rarely 5-partite,” without any example being noted, either here or among the subsequent species, of a 5-partite calyx.

One observable omission, not yet referred to, has regard to fertilization. As is now well known, fertilization is of various kinds, and a group of plants (or even a single plant) may exhibit more kinds than one. Thus, many plants bear both cross-fertilized and self-fertilized flowers. Violets are a very good example; *Lamium amplexicaule* is another. Yet this fact is seldom found noted in the current text-books. Neither do we find a note of the maturing of the stamens and pistil relatively to each other,—although this circumstance goes far to indicate whether the flower can be self-fertilized or not. Nor are we told how the matured anther sheds its pollen in cases where there is a significant peculiarity,—as in *Parnassia palustris*, where each of the five anthers in turn claps itself upon the top of the stigma, “with its back to it,” and discharges its grain on the side away from the stigma, thereby preventing the grain from falling on it. Still, these and all similar facts are really so many distinct characters, and ought to be accepted as such, and embodied in the group-mark.

The defects of taxological botany, then, are apparent and

they are clamant : and similar defects, although in a somewhat mitigated form, are to be found in taxological zoology. If it were necessary, I might show (by instances adduced) that unsatisfactory groups of animals are frequent, more especially at the lower end of the zoological scale, because the characters are incomplete and the distinction between the general and the universal is not strictly drawn, and because also irrelevant characters are not strenuously excluded, while contradictory alternatives are rife. But it is not necessary, I presume. No one acquainted with the subject is likely to dispute the fact ; and the criticisms relevant to the one science apply *mutatis mutandis* to the other.

What then is the upshot of the whole ? It is simply this. Three things are indispensable in order to the satisfactory handling of the Definition in Biology, *viz.*,—to make the list of characters as complete as may be ; to indicate degrees of generality by the marking of exceptions on some such plan as that above suggested ; to avoid mutually contradictory alternatives as characters, as well as characters that properly belong either to subordinate or to superordinate grades. These things have not been hitherto sufficiently attended to by systematists either in botany or in zoology ; on the contrary, they have been lamentably neglected. Hence the worse than unsatisfactory condition of even the best systematic works in these sciences in respect of Method.

2. But this is not the whole of the matter, in so far as Definition proper is concerned. Something more has to be said on the side of method ; and this something more is by no means unimportant.

We have already, on several occasions, seen the nature of the logical distinction between a "verbal" and a "real" proposition; and this distinction is even here of value. A proposition is verbal when the predicate simply unfolds what is already given in the subject; a proposition is real when the predicate adds something to what the subject already contains. Thus, when I say "Knowledge is rational thought," I simply unfold the meaning of the word knowledge; but when I assert that "Knowledge is power," I here predicate something of knowledge which is not included in the mere conception of it: knowledge and power are in themselves two entirely different notions, and by bringing them together, and affirming the one of the other, I state new truth, I give additional information. Obviously, the one kind of proposition (the verbal) simply tells us *what a thing* (the subject of the proposition) *is*; the other (the real) goes farther and tells us something *about* that thing. The latter is, strictly speaking, informational; the former, not.

Now a distinction similar to this has to be drawn between the two parts of the biological "mark". So much of it is simply the analysis of the particular group in question, and, therefore, answers to the verbal proposition; but so much of it is informational, and is thus a real predicate. And these two parts ought not to be jumbled up together.

For the sake of clearness, let us revert for a moment to the botanical "marks" that have hitherto occupied our attention. They are all strictly definitions. The Ordinal mark of the Ranunculaceæ, for instance (p. 287), is just the assemblage of characters that distinguish the ranunculus

family. But when I proceed farther and say:—"This Order prefers a cold, damp climate; has such and such a geographical distribution; numbers so many species; has acrid caustic properties, more or less poisonous, very volatile in the foliage and the herbaceous parts, sometimes very virulent in the roots; possesses certain affinities with the Papaveraceæ, Berberidaceæ, &c., and shows certain resemblances to the Rosaceæ, the (monocotyledonous) Alismaceæ, &c.,"—I go beyond mere definition; and the kind of information I now give should be carefully separated from my list of purely defining characters.

In like manner, it is a real predicate when to the ordinal mark of the scrophulariaceæ, as given on p. 291, I append the Note:—"A large Order, of about 1,900 known species, distributed throughout all lands, and in every climate. Characterized by acidity and bitterness, and possessing valuable medicinal properties (see, for instance, Foxglove). The Order, especially those members of it that have personate or ringent (2-lipped) corollas, is apt to be confounded with the Labiate Family. But Labiates, besides generally having quadrangular stems, have a 4-lobed ovary, with one erect ovule in each lobe, a gynobasic style, and the fruit separating into four small seed-like nuts (as in the Borage Family) in the bottom of the persistent calyx. The Order is also to be distinguished from the Butterwort Family, whose affinities to *Linaria* are well marked."

In the best botanical works, the separation between verbal and real predicate is distinctly made. See, for example, the *Genera Plantarum* already referred to, or

Lindley's *Vegetable Kingdom*, or almost any of the chief botanical authorities. And the same may be said of the best zoological works,—as Huxley's *Manual of the Anatomy of Vertebrated Animals* and his *Manual of the Anatomy of Invertebrated Animals*. But certain defects are still apparent in the working out of the distinction, and it may not be amiss here to call attention to some of them.

The informational part of the mark in Botany consists, according to current usage, of these four things—geographical distribution, number of species, medicinal properties, and affinities, and, in the case of local Floras, there are usually added habitat and time of flowering. But are there not other peculiarities,—such as the life-history of plants, the diseases to which they are liable, the economical uses to which they are put, palæontological revelations with regard to them? And are not these equally worthy of notice?

Take, first, Life-history. This surely is a point of very great interest and of considerable importance; and yet, where do we find it referred to in our taxological botanies? The omission is certainly unfortunate and altogether inexcusable, more especially when we consider its value to the beginner. For, plants pass through various phases of development before they reach their mature state, and, in many of them, a plant at an early stage of its growth is so unlike the same plant later on that it may easily enough be mistaken by the learner as belonging to a different group altogether. A good example is the Common Ash (*Fraxinus excelsior*), which in its growth develops three different kinds of *leaves*. First come the epigeal

dicotyledonous leaves, which are coriaceous and strap-shaped—quite unlike in form, in colour, and in consistency to the others. Then come the simple ovate serrate leaves: and, last of all, *pinnate* leaves, ovate and serrate. Similarly with the *Acer Pseudo-platanus* or so-called Plane-tree. The first leaves are the epigeal dicotyledonous ones, smooth, strap-like and uncut. Crenate leaves, wrinkled, and ovate or cordate, follow. Then come crenate-serrate leaves, with five well-marked pointed lobes. So with the Milk-thistle (*Carduus Marianus*). The epigeal cotyledonous leaves are smooth and coriaceous, distinctly veined but without prominent milk-spots, pale green in colour, and obovate in shape. The later leaves are entirely opposite in these particulars, and they show peculiarities of their own. Instead of being smooth and coriaceous, they are shining, membranous and hairy; the veins are not a prominent feature, but numerous milk-spots, comparatively large and of various sizes, are conspicuous; the colour is dark green; the shape ovate; and the margins of the leaves are sinuate and prickly. So with many of the lower plant organisms. There is the remarkable phenomenon of heterœcism, and this species, of parasitism cannot be adequately represented without distinct reference to life-history. It would be best, however, to remove such a case as this to the verbal part of the definition. It is like the metamorphosis of animals, which properly finds its treatment under the leading characters. On the other hand, parasitism like that of the Dodder would be partly given in the real predicate. Its characters as a parasite would constitute the

“mark” proper ; the fact of its germinating (non-parasitically) in the ground, would be a part of the added information.

But notice should also be taken of the Diseases of plants. Not only is this necessary for the sake of completeness, it is further demanded by higher considerations. As is well known, disease in the vegetable kingdom means loss in the animal kingdom, and intellectual and pecuniary interests are both involved in proper information here. Now, it is an ascertained fact that there are various groups of plants that are liable to distinct diseases (fungal or other), and, in so far as this is an ascertained fact, it admits of being definitely stated. Thus, among the Speedwells, Germander Speedwell (*Veronica Chamædrys*), after the season has well set in (say, in the beginning of July), has its growth perceptibly arrested, and the leaves and incipient flowers are seen to be here and there formed into roundish (hazel-nut shaped) woolly balls, which are found, when opened, to contain a number of small vermilion-coloured maggots—the larvæ of a particular insect. This is quite obvious to any observer ; and yet we do not find it noted in the text-books. Again, we have the leaves of certain plants (e.g., Chickweed wintergreen, *Trientalis Europæa*) subject to the attack of distinctive fungi ; but we have to discover the fact for ourselves, unless we have a teacher beside us directing our attention to it. Once more, the gall-nut of the Oak, and the galls on the stem of Lady's bedstraw (*Galium verum*), are observable features ; and yet neither of them finds a place in the group-mark of the systematic botanist.

The same must be said of the Economical and other uses of plants, the medicinal properties excepted. Although these are frequently of great value (*e.g.*, in the Oak), they are commonly passed by, and others of a less important character given in their stead.

But an important omission remains. It is high time now to refer in the group-mark to the Geological aspect of plant-life. It is not, indeed, as yet possible to make this a leading character, except in a very limited number of cases; but where geological investigation has succeeded in throwing light upon any particular class, sub-class, order, or genus (as it has done, for instance, in the case of the Gymnosperms and the Lycopodiaceæ), the revelation should not be ignored. I do not, of course, mean that the systematic botanist is to usurp the function of the palæontologist; but if his object is (as it ought to be) to have in his group-mark *multum in parvo*, he will never rise to the height of the *multum* unless he includes every relevant item, and bestows special care on those items that are specially relevant, and *parvo* can mean for him nothing else than "compressed truth," "terse expression,"—it does not stand for inadequacy and incompleteness, but for the absence of verbosity and diffuseness.

When now we turn from Botany to Zoology, we find a marked contrast in some respects in the treatment of the real predicate, but in other respects corresponding inadequacy and defect.

In the first place, take Life-history. This, in many instances, receives ample attention in the case of animals—more particularly so, where (as in the butterfly, the

frog, &c.) the living being passes through various stages of development and leads a separate life in each. Study of Embryology has here produced a much greater effect than there. Again, take Palæontology; and we find that there are whole groups of animals (*e.g.*, Ammonites, Trilobites, Graptolites, (most) Ganoid fishes, Pterodactyles, &c.) that exist for us only in the fossil state, but whose fossilized existence has enabled us to supply gaps in the animal kingdom that would otherwise have remained unfilled. There is hardly anything corresponding to this in botany. Again, we take the noting of affinities and resemblances, and this we find to be a particularly strong point in taxological zoology.

Nevertheless, economical and other uses are often conspicuous by their absence, and the utmost advantage is not by any means taken of geographical distribution. Even palæontological information which (as we have just seen) has been successfully employed to fill up gaps in the classification, has not been turned to full account in illustrating groups that still exist in the living form. But, perhaps, the two greatest omissions have reference to the *habits* of animals and to their *mental development*.

To begin with Habit. This is unquestionably a subject of great interest and of much practical value, and there is a vast mass of information ready to hand, which might be utilized in a compressed form for the end in view. I refer not simply to the investigations of Darwin and of Sir John Lubbock, but also to the many accurate observations that have been made on Spiders, Fishes, Birds, &c., by others, and to the knowledge that we now possess

of the ways and manners of almost all classes of animals. Thus, we know that the stickleback is a fish that builds a nest for the depositing of its spawn,—that the mother earwig both hatches and afterwards collects her brood just as the domestic hen does her chicks,—that the spider's web is intimately connected with the spider's mode of living ; and these, and all such like facts, ought to have a place in the real predicate of the naturalist, and be as carefully presented as the anatomical or structural characters in the verbal definition.

But the other defect is even more surprising, especially in view of recent discoveries and investigations. No notice is taken of Mental Development, except in the case of the very highest animals,—and these, very sparingly. Yet surely Memory and the germ of Intelligence are found far down the zoological scale ; and, when you come higher up, it would be proper to note with some minuteness the various mental characteristics displayed,—Reasoning (in the form of cunning, sagacity, adaptation of means to end, &c.), Affection, Volition, Conscience. This could be very well done without carrying the matter to an extreme, or stretching the evidence ; and the innovation would certainly be an improvement.

Such then are several of the leading defects in the handling of the verbal predicate ; and neither the zoologist nor the botanist will reach perfection in this matter until he imitate the example of the mineralogist, who is equally full in his information about minerals as in his enumeration of their characters.

3. Our third point deals with the *presentation* of characters; by which I mean both the defining expedients for illustrating and making clear the analysis (*e.g.*, figures, formulae, &c.,—helps to the eye and to the mind) and the devices for representing differences between allied groups (the form that Discriminative definition assumes in the Natural History Sciences).

It is plain that, if the different groups in a classification were uniformly self-contained, if their members had no affinities except among themselves, and if their differences in the midst of agreements were either few or *nil*, the description and presentation of groups would be a comparatively easy affair. But what we actually find is—plants or animals of the same group agreeing in some points and disagreeing in others, and groups so nearly allied to each other as to justify our placing them together in one Section, but having, nevertheless, in some particulars striking resemblances to others not thus associated with them. In reference to this last case, it is clear that no single method of presentation will be adequate on all occasions. Sometimes, after enumerating the resemblances, we might draw out a table of the striking differences, and thus fix the matter in the form of a contrast. In certain transition groups, again, it would be necessary to have a special treatment corresponding to the special complications. But, most frequently, all that can be done is—to note the fact of erratic resemblances, and, for the rest, to allow the descriptions at the various grades to speak for themselves.

It is different, however, when the resemblances and the differences are *within* a grade itself. It will then be

necessary to view the included members in as many lights as possible, and all available devices must be utilized and welcomed.

Two valuable expedients are Diagrams and Formulæ. These go so far, but are not exhaustive. They have reference only to certain organs of animals and plants; and, as they are usually confined to *types*, they fail to mark deviations from the type form. Yet, by all means, let them be given. Let the taxologist uniformly preface his group-mark by a diagram and the appropriate formula, and this will be at once recognized by the student as a distinct help to the understanding. Plates and Figures, again, are very useful, more especially when supplementary to Diagrams; they have all the advantages of a *picture*, but do not, therefore, dispense with the necessity of further descriptive expedients. Their value is well appreciated by the zoologist, and botanists of a former generation (*e.g.*, Lindley) acknowledged it; but, for some reason or another, botanists of the present day ignore it. This is certainly to be deplored. Much value, also, attaches in botany to the "Analytical Key" (proceeding as it does upon the principle of bifurcation),—not only as an instrument of diagnosis, but also as a means of exhibiting the affinities. But by far the best method, and the most widely available, is the use of Tables. By this means we are able to work the agreements and the differences to great advantage, and to present them in close contiguity; thereby securing precision to the statement and also producing on the mind a clear and lasting impression. It is a means also of saving repetition.

I may exemplify from the Monocotyledons among plants.

Let us take the two allied orders—Cyperaceæ and Gramineæ, the Sedge Family and the Grass Family. These two are included in the Cohort *Glumales*. The question is—How shall we present them so as best to display their characters? We take the agreements and the differences and set them over against one another in the form of tabular contrast. It is particularly desirable to vary the type of printing here, so as to catch the eye and to bring the important points into bold relief; and, for the same reasons, it is desirable that the numbers should be marked in figures.

Thus :—AGREEMENTS :

Flowers in spikelets; *perianths* either none or replaced by scales or bristles; *stamens* hypogynous, 3, rarely 2; *ovary* simple, 1-celled, with 2-cleft or 3-cleft style, and 1 ovule; *embryo* lenticular.

DIFFERENCES :

	STEM.	LEAF-SHEATH.	FLOWERS.	STYLE.	FRUIT.	EMBRYO.
Cyperaceæ	Solid, nodes indistinct.	Entire, ligule absent.	Each in axil of 1 bract.	Branches simple.	Pericarp not adherent to seed.	Within base of albumen.
Gramineæ.	Hollow, nodes distinct.	Split open, ligule present.	Each enclosed between 2 bracts.	Branches feathery.	Pericarp adherent to seed.	Outside albumen at its base.

An example from the animals may next be taken, and that which suggests itself are the two invertebrate groups—Lamellibranchiata and (Huxley's) Branchiogasteropoda. The AGREEMENTS here are :—Body enclosed in a *pallium* or mantle; animal possessed of a *foot*; *heart* with auricular and ventricular chambers; *nervous system* consisting of 3 principal pairs of *ganglia*—cerebral, pedal, and parieto-

splanchnic. These, on the other hand, are the tabulated DIFFERENCES :—

	SHELL.	MANTLE.	FOOT.	HEAD.	ALIMENTARY CANAL.	RESPIRATION.	HEART.
Lamellibranchiata.	Bivalve only.	Lobes — 2 lateral, <i>i.e.</i> right and left of body.	Never produces an operculum.	Absent.	First flexure of intestine neural.	By means of leaf-like gills.	2 or 3 chambers, in one of 3 combinations.
Branchiogasteropoda.	Never bivalve, but either uni-valve or multi-valve.	Continuous round the body.	Often produces an operculum.	Present, with 2 cephalic eyes.	First flexure of intestine hæmal; mouth with odontophore.	In either of 3 ways; by (a) plume-like gills, (b) mantle cavity, (c) skin of body.	2 chambers (1 auricle and 1 ventricle), rarely 2 auricles.

I need not exemplify farther. The method is applicable alike to groups of species, of genera, of families, of orders—wherever, indeed, you have a group of groups and wish to emphasize their differences.

It is clear, however, that the Table is thoroughly effective only when we can entirely separate the agreements from the differences: nevertheless, it is sometimes useful even when that cannot be done. Where, for instance, in a group—say of three—all the members have a certain number of points in common, but certain others are shared in only by two at a time, the first and third agreeing in this particular, and the second and third in that, and so on,—the Table may still be a welcome expedient. Thus, we take a group of species from the genus *Ranunculus*—*viz.*, *Ranunculus bulbosus*, *R. acris*, *R. repens*. The specific AGREEMENTS of these three are :—*Herbs* perennial; *leaves* deeply-cut and hairy; *flower-stalk* and *calyx* hairy; *corolla* yellow, with

the basal mark of the petals covered by a scale; *carpels* glabrous. These must be noted by themselves. But an instructive addition may be made by presenting in a tabular form the following mixed AGREEMENTS and DIFFERENCES:—

	CORM.	STEM.	LEAVES.	FLOWER-STALK.	CALYX.
R. bulbosus.	Present.	Erect without runners.	Divided into 3 stalked segments.	Furrowed, with longish loose hairs.	Reflexed.
R. acris.	Absent.	Do.	3 segments start from same point.	Slender cylindrical, with hairs appressed and downy.	Spreading.
R. repens.	Absent.	Creeping and rooting scions.	3 stalked segments, the central one being longer than in bulbosus.	Furrowed, with longish loose hairs.	Spreading.

It is still the same when, for the purpose of obtaining a clearer view of affinities we bring together groups for comparison on a *single* character; only, the Table now may assume the form of two parallel columns. Thus, I wish to compare the Mosses and the Liverworts, among cryptogams, as to their main defining peculiarity—*viz.*, the sporecase or capsule (sporangium or theca); and the DIFFERENCES would be presented thus:—

MOSSES (Musci).

LIVERWORTS (Hepaticæ).

- | | |
|---|---|
| 1. Hood (or calyptra) carried up on point of sporecase. | 1. Hood remains at foot of stalk (seta) of sporecase. |
| 2. Sporecase with operculum or lid. | 2. Without operculum or lid. |
| 3. Valveless. | 3. Opens by 4 (or 8) valves. |
| 4. With peristome (teeth). | 4. Without peristome. |

- | | |
|---|--|
| 5. Spores simply. | 5. Contains elaters as well as spores. |
| 6. With axis or central column (columella). | 6. With or without columella. |

But even when more than a single organ has to be dealt with, the parallel column may be used with effect, if only the differences in each organ be few. Thus we take the Composites and the Teasels and compare them as to floret and anthers, and the presentation would be :—

DIPSICACEÆ (Teasel Family).

COMPOSITÆ.

- | | |
|--|-----------------------------------|
| 1. <i>Floret</i> enclosed in an involucre. | 1. <i>Floret</i> not so enclosed. |
| 2. <i>Anthers</i> free. | 2. <i>Anthers</i> united. |

Such then are the character and scope of the Tabular method of presentation. It has, obviously, degrees of effectiveness : but, in many cases, it is the best plan that can be adopted ; in others it is the most practicable ; and, in others still, it is useful by way of supplement or addition.

II.—TERMINOLOGY.

Next in importance to the handling of the group-characters with a view to definition comes the matter of scientific Terminology. In its full extent, this subject raises many questions. It takes account not only of adequacy and inadequacy of phraseology, but also of such points as the introduction and formation of new names, the dropping of an old well-established term, changing the connotation of terms, and so forth. But all that we have to consider here

is Terminology in so far as it bears upon Defining; and this is the same thing as saying that we have simply to occupy ourselves with the three great rules that play the main part in Scientific Naming.

I. The first of these rules is this :—

That there shall be a distinct name for every separate or distinct thing; in other words, that in every department of scientific knowledge the descriptive terminology shall have a copiousness adequate to the needs of that department.

Now, when we consider that the Natural History Sciences are growing sciences, that research in them is being constantly pushed forward and new discoveries are being steadily made, it is evident that biological terminology cannot remain in a fossilized state. It must change as our knowledge of fact changes, keeping pace with the new revelations that from year to year surprise us. And this much must be frankly admitted, that, in the case of interesting and striking discoveries, more especially when such would prove a good *diagnostic* character, both the botanist and the zoologist are ever ready with a corresponding terminology. Thus, when the fertilization of plants became the subject of absorbing interest in botany, and so much fresh light was thrown upon it by the observations and experiments of Darwin and others, —there was no lack of resource in finding technical names appropriate to the various fertilizing processes. Under this impulse, self-fertilization and cross-fertilization have become respectively “autogamy” and “allogamy”; flowers that owe their fertilization to the wind are “anemophilous,” and

those that are dependent upon insects are "entomophilous"; while that species of self-fertilization which appears in such plants as the Dog-violet, and which consists in small, usually uncoloured, self-fertilized flowers appearing on the same plant subsequently to those that are cross-fertilized, is known as "cleistogamy". As, moreover, it is a point of particular significance for fertilization whether the stamens and the pistil do or do not reach maturity at the same time, it becomes of much importance to note the peculiarities of plants in this respect. Hence the introduction of such words as "proterandrous" and "proterogynous," the one to indicate that the stamens come first to maturity, and the other that the pistil is the first to mature. Hence also the word "dichogamous," to signify that stamens and pistil attain maturity together.

So, research has shown that plants which under a less exact system of naming passed as Parasites are, many of them, no such thing; while parasitism itself has forms and degrees. And so, the distinction has been introduced between parasites, epiphytes, and saprophytes—thereby enriching the language and aiding clearness and exactness of view.

So, when botanists have come to see that pathology in the vegetable kingdom is something worthy of minute attention, that the study of monstrosities in plants is capable of advancing our knowledge of plant-processes and plant-structure to a wonderful degree—when, in short, they have awakened to the fact that monstrosities are to them very much what abnormal and diseased organs in animals are to the physiologist, or diseased nervous functions in the human

being to the psychologist,—the need has become felt for a distinctive name for this particular study, and the want seems to be supplied by Professor Asa Gray's word "teratology".

I need not dwell on the richness of botanical language as expressive of the various structures and organs of plants,—as when we find the terms combined with *enchyma* applicable to plant-tissue almost legion (parenchyma, inenchyma, prosenchyma, angienchyma, pleurenchyma, trachenchyma, cinenchyma, &c.), or when we meet with such a list of distinctive words in *carp* as to leave nothing to be desired (pericarp, epicarp, exocarp, mesocarp, sarcocarp, endocarp, cremocarp, mericarp, hemicarp, &c.). There certainly is no lack here, but rather superabundance or excess.

All this is true; and yet botanical terminology has its weak points. It fails often where minute and seemingly unimportant differences have to be reckoned with; and poverty of names is frequently conspicuous in the presentation of group-characters. Thus, counting one thing with another, there are a considerable number of stamen appendages among flowers, and the variety of current names for such appendages is also considerable; but it would not be difficult to mention several of these structures that are not definitely represented by a name. Again, the generic word "nectary" is made to do duty in a variety of situations where specific words ought certainly to be created. So, the terminology is inadequate when dealing with modes of carpel-union. But, perhaps, the most obtrusive deficiency is when Colours and Forms have to be described.

Take, first, Forms. Copious though the terminology

may at first sight appear to be, it is found, when put to the test, to be by no means sufficient,—as any one knows who has had to identify Leaves (for instance) or Perianths from the book description. And the cause of the deficiency is not far to seek, when it is observed that two of the main sources of form-terminology are these—(1) resemblance to well-known common objects (the cross, the strap, the helmet, the lip, the salver; hence such words as cruciform, ligulate, galeate, labiate, hypocrateriform), (2) the typical form of a genus or an order (hence Rosaceous, liliaceous, orchidaceous, &c.). The looseness of this is very manifest. For, in the case of analogical names, it is taken for granted that the name-giving object is always of one and one only shape; whereas the truth is that, in the majority of instances, shapes are diverse. For example, the cross, the strap, the salver—neither of these is one and one only: there are many kinds of crosses, many different forms of straps, several sorts of salvers, and so forth. Then, as to the second source of names, it assumes that the generic or the ordinal form is uniform and constant; which, of course, is not the case.

Here, then, is one sphere where reform is called for in botanical naming. Nor ought reform to be insuperable when we remember what has been done in the direction of form-naming by Mineralogy, and what indeed has sometimes been accomplished by the unscientific under the pressure of necessity.

In like manner, the ideal is still unattained in the marking and naming of Colours. No doubt, you have here a fluctuating and uncertain element, which can never

be got rid of ; but the difficulty is not altogether insurmountable, and shades of colour may be discriminated with far greater nicety than they usually are, and botanists may avoid at least confounding such well-marked differences as red and purple,—orange, lemon and yellow,—lavender and blue !

It is different when we turn to Zoology. All the completeness that botany can claim in the matter of scientific naming finds its counterpart here, while there is little corresponding to the botanical defects I have just alluded to.

In zoology, there is no lack of names for different (though allied) things, either when these things are obvious or striking or when they are minute and inconspicuous. Thus, take the words expressive of *genesis*, and surely there is ample sufficiency for the purpose,—biogenesis, abiogenesis, epigenesis, parthenogenesis, pangenesiis, gamogenesis, agamogenesis, &c. Or take such a word as *Zoöid*. It is the generic term for "the individuals of compound organisms," whether these individuals be produced by gemmation or by fission, and whether they remain attached to each other or become free. But when the separate zooid is an *Actinozoön*, it goes by the name of a "polype"; when it is a *Polyzoön*, it is called a "polypide"; and when it is a *Hydrozoön*, it is known as a "polypite". Or, take the words expressive of the *cup* and the *bell* forms. The cup that contains the polype of an *Actinozoön* and the cup that contains the polypite of the *Sertularida* are not designated (as probably enough they would have been in botany) by the same name, but the one

is a "calice" and the other a "hydrotheca"; while "calyx" is the name reserved for certain of the *Infusoria* and of the *Echinodermata*, and "necto-calyx" denotes the swimming-bell of certain of the *Hydrozoa*. Indeed, almost every separate class in zoology has its distinctive technical names, and there is no hesitation in introducing new words when new facts are discovered. This is, certainly, as it ought to be; for, if it is necessary in science to observe minutely and to mark specific differences, it is equally necessary to embody the differentia in an appropriate term.

II. But the converse of the foregoing rule holds, and, if it is proper that every separate thing should have a separate name, it is proper also that every separate name should have its own distinctive meaning.

This rule may be infringed in two ways:—(1) when a technical term is employed both in a general and a special signification; (2) when the same technical word is applied to various different things.

A good example of the first infringement is the word *Adnate*. This, in botany, is used in a general sense as a synonym for *adherent*,—and it matters not whether the adherence be that of calyx and corolla, or of corolla and pistil, or whatever it may be; and it has also a narrower and special use as applied to anthers. Again, the word *Cell* has, in botany, a general and two special significations. It should in strictness be confined to the anatomic plant-unit; but it has also two specialized uses, as referring to the anthers and to the ovary,—which might eas

enough be avoided if the term were replaced by such words as "sac," "cavity," or (better still) "loculus," whose companion "locellus" is found extremely useful.

So with zoology. "Auricle," for example, is sometimes restricted to the auricular part of the heart in *Mammals*; more commonly, it is extended so as to include other than mammalian hearts. Again, Cell, in the animal organism, is properly the name for the well-known microscopic unit, but it has also the wider signification of "small cavity" in general,—as when we speak of a bee's cell, &c.

The second kind of infringement we see in such a technical botanical word as Superior, with its correlative Inferior. One part of a flower is said to be superior to another when it is above it: this is mere position. A calyx is superior when its tube clasps or encloses the ovary (wholly or in part): this is container and contained. An embryo is superior when its radicle points towards the apex of the fruit: this is bare direction. Here, then, we have three distinct significations (above—below, without—within, up—down; or position, enclosure, and direction); and the word, which might serve a good purpose if restricted to one special use, becomes worse than useless (it is misleading and confusing) when thus extended. There is also a fourth signification, when applied to the relation of parts of a flower to the axis: it is now *distance* that is denoted; nearer to the axis is superior, furthest from the axis is inferior.

The same thing occurs in zoology. Thus, the Operculum in fishes, is one thing; in univalve molluscs, it is another. Again, the word Nucleolus stands both for the minute solid matter found inside the nuclei of cells, and for

the minute solid matter found outside the so-called nucleus of certain of the *Infusoria*. And Nucleus itself has a twofold application—first to the solid germinal body that many cells contain, next to the solid band-shaped body found inside certain of the *Protozoa*; just as Nucleus, in botany, is applied both to the nucleus of a cell and to the enlarged ovate form of the ovule and seed—two entirely different things.

III. The third rule lays down :—

Avoid exuberance of technical names; beware of multiplying synonymous terms.

In some instances, the existence of synonyms in science has an archæological value: synonyms are historical landmarks. But in that case, they are synonyms only in name; the seemingly equivalent terms have really different associations and raise different ideas in the mind. Thus, the synonyms of the two primary divisions of plants, phanerogams and cryptogams, are respectively cotyledoneæ or vasculares and acotyledoneæ or cellulares. But on neither side are the synonyms now identical; and the words vasculares and cellulares, because of their historical connexions, convey a unique meaning to the instructed botanist. So the words exogens, endogens, and acrogens are not really synonymous with dicotyledons, monocotyledons, and cryptogams. Besides the radical defect that, like vasculares and cellulares, they fail to express the truth, they are laden with adventitious meaning and are retained mainly on account of this.

So with the old names *Infusoria* and *Zoophytes* in Zoo-

logy ; or with Cuvier's Mollusca and his Articulata ; or, indeed, with the Cuvierian terminology in general—which, when retained in modern systems, has either an historical interest only or has the application entirely altered.

It is wholly different, however, with words that are intended to be strict equivalents. In high-flown composition, aiming simply at literary effect, it is often an advantage to have at command fine sounding words of Greek or Latin or other foreign origin—a plain Saxon term may fail to suit the purpose ; but, as exactness is the object of Science, there is no need for studying effect here, and a multiplication of foreign or hybrid words for the same thing, when it can be avoided, is certainly an evil. What then shall we say to the following doubles in botany :—"anthotaxy" and "inflorescence" for the plain word "flowering" ; "loculi" and "thecæ" applied indifferently to the cavities of anthers ; "syngenesious" and "synantherous" signifying the same thing when used of stamens ; "apocarpous" and "dialycarpous" absolute synonyms in reference to pistils ; "foramen" and "micropyle" equivalents also in their application to the seed ? Or what shall we say to the following in zoology :—"cutis," "corium," and "derma" for the true skin, as opposed to "cuticle" and "epidermis" for the scarf-skin ; "omphalos" and "umbilicus" for the navel ; "spiracula" or "spiracles" and "stigmata" for certain tracheal openings in insects ? Obviously, these and all similar synonyms are in the highest degree objectionable. Two or more names for the exact same thing (especially if each happens to be "sesquipedalian") are a burden to the learner, and they serve no good purpose to any one.

Least of all does the *systematic* naturalist require them ; for, dealing so much in the hard and technical as he must of necessity do, it should be his endeavour not to make the uninviting still less attractive.

Three great rules, then, should guide the formation and application of biological Terminology, each of them susceptible of being rigorously followed, and none of them unimportant either from a scientific or from a logical point of view. Yet not one of them has been strictly carried out by the taxologist : hence the possibility in taxological works of still further improving the methodic treatment of the defining "mark".

APPENDIX

BOËTHIUS.

THE position of Anicius Manlius Severinus Boethius in the history of Philosophy is, in many ways, unique. Living, as he did, in the days of Theodoric the Goth (in the end of the fifth, and early part of the sixth centuries*), he was the last important figure of the old Roman type, and with him passed away the glory of ancient times, and the (so-called) Dark Ages began. He was, moreover, the one great philosophical authority in the West during the first period of scholasticism, and it was his works (or rather portions of them) that were the chief study of the schoolmen down to the twelfth century.

As a philosopher, Boethius is mainly remembered by his Realistic interpretation of the five predicables, and his doctrine and exposition of the Quadrivium (his classification of the Sciences, as we should now-a-days say), to which may be added his characteristic Method. His *Method* was precisely that which has come to be known by the name "scholastic," equally finical and equally barren, as may be gathered from the application of it in the opening sentence of the *De unitate et uno*:—"Oneness is that whereby a thing is said to be one. For, whether it be simple or compound, whether it be spiritual or corporeal, a thing is one by reason of its oneness; nor can it be one save by its oneness." His *Quadrivium*, or fourfold division of the sciences (*quatuor matheseos disciplinæ*), has become

* He was born about 470 A.D., and put to death in 524 or 525 A.D.

historical. According to him, the order and derivation of the pure sciences is this,—Arithmetic, Geometry, Music, and Astronomy; and his own three treatises, *De Arithmetica*, *De Musica*, *De Geometria* may be regarded as his contribution towards the elucidation of this doctrine. His *Realism* is open to doubt. It is enunciated in the first *Dialogue on Porphyry*, and runs thus:—“The first question is whether genera and species have a true subsistence (*utrum vera sint*), or whether they are mere creations of the intellect (an in solis intellectibus, nuda inaniaque fingantur). . . . If you weigh the complete truth of things there can be no question that they are true (*verae sint*). For, seeing that nothing that is true can be without these five [predicables], you cannot doubt that these five things themselves have been truly understood (*vere intellectas*). They are conglutinated in all things, and in a manner compacted and embedded in them (*conglutinatae et quodammodo conjunctae atque compactae*). For, otherwise, why should Aristotle treat of these ten primary names, which signify the genera of things? or why should he collect their differences and their properties, and give us a special handling of their accidents had he not seen that these were bound up in the things, and were in a manner one with them (*nisi hæc in rebus intimata et quodammodo adunata vidisset*)? But if so, there is no question that they are true (*veræ sint*), and are grasped by the certain contemplation of the mind, as is proved by the assent of Porphyry himself.” Now, is this the Scholastic Realism? The schoolmen themselves (from the eleventh century downwards*) thought so, and appealed to Boëthius, along with Plato, in support of Realism, as against Porphyry and Aristotle, whom they regarded as Nominalists. But is it not, after all, when closely examined, exactly Aristotle’s *Universalia in re*? The ambiguity lies in the word “true” (*verum*); and it seems to me evident that Boëthius himself considered his teaching as at one with Aristotle’s and with Porphyry’s.

* The question of Realism itself did not emerge till the previous century.

To Boëthius, also, we must allow a well-marked position as a moralist. This he achieved in his theologico-ethical treatise *De Consolatione Philosophiæ* (written while in prison at Ticinum, and in view of his expected end). It is a work thoroughly Platonic in tone (not Aristotelian), and deals with such high problems as the existence of evil, the immortality of the soul, the chief good, "fixed fate, free will, fore-ordination absolute"; and, although we may not be able to subscribe to Peter Bertius' opinion in the *Preface* to the Delphin edition, that "our author alone is competent to resolve all the controversies that agitate the minds of many at the present time," we must yet pronounce the treatise to be one of the best that have appeared on these themes, almost in any age. Its influence in the West was for centuries immense; and among other tokens of the estimation in which it was held in England, it had the honour of being translated into Saxon by King Alfred.

Boëthius shone further as a rhetorician. This he could hardly fail to do, considering his character as true Roman, and considering the place he occupied as statesman and patrician under Theodoric the Goth; and there are extant of his six books of *Commentaries on the Topics of Cicero*, besides two short rhetorical tractates—*De Rhetoricæ Cognatione* and *Locorum rhetoricorum distinctio*.

But, besides being a philosopher, a moralist, and a rhetorician, Boëthius was also a logician; and, as a logician, to him belongs the honour of being the father of Latin dialectics, and of supplying the West with its logical nomenclature. His originality here, indeed, is not great—although he has a distinct merit in the handling of the Hypothetical Syllogism, and in the treatment of the doctrine of Division; but he shines as a commentator and translator, and, had it not been for him, the *Organon* of Aristotle* and the *Isagoge*

*The treatises of Aristotle composing the *Organon* are, of course, these:—*Categoriæ*, *De Interpretatione*, *Analytica (Priora and Posteriora)*, *Topica*, and *Sophistici Elenchi*. All these Boëthius translated and commented on. Not the whole of his translations, however, were known in mediæval times, but only the *Categoriæ* and the *De Interpretatione*, which, together with his commentaries on

of Porphyry would have remained for ages unknown to the Latin world.*

Two treatises of his have special bearing on the subject of the present work, *viz.*,—one entitled *De Divisione*, and the other *De Definitione*. The *De Definitione* is the least important of the two, and I do not mean to reproduce it here; but the *De Divisione* is in itself an admirable production, considering the time in which it was written, and may be read with much profit as well as interest at the present day; and as, moreover, it will afford the student the means of comparing this important early treatise with modern achievements, I append an abstract of it.†

ABSTRACT OF BOËTHIUS' *DE DIVISIONE*.

The subject treated of by Andronicus [of Rhodes], Plotinus, Porphyry, and Plato in the *Sophistes*.

Division is of four kinds:—(1) Of a genus into its species, (2) of a whole into its parts, (3) of the various meanings or significations of a word, (4) of a subject into its accidents (*secundum accidenſes*). Of these the first is division proper, though Boëthius treats of the second and

Porphyry (*Dialogi* and *Commentaria*), constituted what goes by the name of the *Vetus Logica*. The remainder (*viz.*, the *Analytica*, the *Topica*, and the *Sophistici Elenchi*) came to the light only with the great revival of logical interest (effected through the Arabians) in the twelfth century; and, as this newly-discovered portion had to be distinguished from the other, it was known as the *Nova Logica*. When further, with the thirteenth century, an actual addition was made to logical doctrine, in the shape of a grammatico-logical treatment of names—represented chiefly by the seventh tractate of the *Summulæ Logicales* of Peter Hispanus, entitled *De Terminorum Proprietatibus*,—this new doctrine was designated *Logica Modernorum*, and was put in contradistinction to the whole of the Boëthian *Organon*, which was henceforth termed *Logica Antiqua*.

*The ruling influence among the Latins, previous to Boëthius, was Plato (not Aristotle), as represented chiefly in Neo-Platonism.

†These two treatises seem to have been known even in the Dark Ages. The other logical writings of Boëthius, besides those enumerated in the text, are:—*Introductio ad Syllogismos Categoricos*, *De Syllogismo Categorico*, *De Syllogismo Hypothesico*, *De Differentiis Topicis*.

the third with considerable fulness, and the fourth he refers to near the beginning, and again at the end, of his treatise,—remarking at the end that it was ignored by the earlier logicians, but had been assigned its rightful place by the later peripatetics.

Let us follow him for a little in his exposition of these four modes of division. He first defines each, and then discriminates them.

I. The four modes defined.

(1) Division of a genus into its species, in the first instance, means *dichotomy* [although this word is not used by Boëthius],—as when we divide animals into rational and irrational, and rational into mortal and immortal. But, on the other hand, the parts may be more than two,—as when we say of colours that some are black, some white, and some intermediate. This, however, is a general rule:—That neither can the species be infinite in number, nor can they be less than two. (2) Division of a whole into its parts is when we resolve a compound into its elements,—as when we say a house (*domus*) is in part a dwelling (tectum), in part a wall (paries), in part a foundation (fundamentum). (3) Division of an equivocal word (*vox*) is the unfolding of its various significations,—as when I say “dog” is the name of a barking quadruped, and of a constellation, and of a marine animal called the sea-dog. Equivocation applies to the sentence (*oratio*) as well as to the name (*nomen*),—as in the Delphic utterance, “Aio te, Aeacida, Romanos vincere posse”. This is properly called *amphibola* (Greek ἀμφιβολία) and ambiguity (*ambigua*); the other is strictly designated *æquivocatio*. (4) Finally, of division *secundum accidens*, there are three modes:—(a) separation of a subject into its *accidens* (e.g., of men, some are black, others white, others intermediate in colour), (b) division of an accident into its subjects (as, objects of desire are located either in the soul or in the body), (c) division of an accident into *accidentia* (of clear things, some are hard,—as a pearl; others liquid,—as milk).

II. Now for discriminations.

To begin with the last. This fourth kind of division obviously differs from all the rest ; for you can divide an accident into subjects in a way that you cannot divide a signification into words (*voces*), or parts into a whole, or species into genera. As opposed to this *divisio secundum accidens*, each of the other forms of division is denominated *secundum se divisio*. How then are these three last discriminated ? Thus :—Division of a genus into its species differs from division of a word into its significations,—(1) by the fact that the former is always whole (*totum*) to its own species and is more general by nature (*universalius in natura*), whereas the latter (*æquivocatio*) is only “*totum in voce, non etiam totum in natura*”: the various meanings of a word have nothing in common but the name, whereas the various species of a genus share both the name of the genus and the definition ; (2) the number of the meanings of a name (say the word *canis*) differ in different languages and among different peoples, so that division of a name is ruled by locality and custom (*ad positionem consuetudinemque pertineat*) ; the division and distribution of a genus, on the other hand, is always and everywhere the same (*ad naturam pertineat*).

In like manner, division of a genus is marked off by various differences from distribution of a whole (into its parts) :—(1) Division of a whole is according to quantity (*secundum quantitatem*), that of a genus according to quality (*secundum qualitatem*) ; (2) a genus is by nature prior to its species, but a whole posterior to its parts,—so that we resolve a genus into what is posterior, but a whole into what is prior : furthermore, take away the genus and the species disappear, but not conversely ; whereas, remove a part and the whole is non-existent, but remove the whole and the parts may still exist, though in distribution (*distributæ*) ; (3) the genus is the ground (*materia*) of the species, but the ground (*materia*) of the whole is “*partium multitudo*”—the collection of the parts ; (4) a species is always the same thing as genus is (*e.g.*, man is the same thing as animal), but the part is not always the same thing

as the whole (*e.g.*, the hand is not the same thing as the man, nor the wall as the house).

It remains to discriminate the distribution of a word (*vocis*) from that of a whole (*totius*). It is done thus :—As a whole consists of parts, but a word of its various meanings, so the one is divided into parts, and the other not into parts but into those things that the name signifies : whence it follows that, remove a single part and the whole is annihilated, but remove one of the significations of a word and the word still remains.

Having thus finished his discriminations of *secundum se divisio*, Boëthius next proceeds to a detailed consideration of the four modes. Let us follow him also here.

1. First, generic division (*generis distributio*). He begins by defining genus, species and difference ; on which we need not dwell, farther than to say that you give the genus in answer to the question, “*What a thing is (quid sit) ?*” and the difference in answer to, “*Of what kind it is (ad qualis perunctionem) ?*” For example, “*What is man ?*” Answer—“*An animal*”. “*Of what sort is man ?*” “*Rational*.” He becomes important for us only when he reaches the point where he enforces that, as there are four kinds of opposition, so genera and species are separated by opposites (*per opposita*) in this fourfold way. Each of these he now considers.

(1) Contradictory opposition (*contradictionis oppositio*), or opposition by affirmation and negation : “*ut Socrates vivit, Socrates non vivit*”. Be it observed, however, that bare negation is inadequate of itself to make a species or to divide a genus into its species. It is only of value when we have no single name to designate species,—as when we say of colours, some are black, others white, and others neither black nor white. The process, therefore, is simply conventional ; it arises from the exigencies of the case : “*hoc igitur cogit interdum necessitas, non natura*”. And in order to render it effective, negation must be preceded by affirmation ; as when we say of numbers, some are prime, some not prime,—the positive comes first, otherwise we shall be unintelligible. In like manner, the

finite should precede the infinite (as equal, unequal ; virtue, vice ; &c.), and, in general, division should proceed upon the finite rather than the infinite, the positive rather than the negative.

(2) Opposition of possession and privation (*secundum habitum privationemque*),—as sight and blindness. This follows the rule of the foregoing :—*habitus precedes privatio*.

(3) Contrary opposition (*contrariorum oppositio*),—as good, evil. This is either thorough-going bipartite opposition, or has intermediate grades. But by means of symbols (letters, for example, *a*, *b*, &c.) and the like, the division may be carried out to almost any extent dichotomously. Thus, instead of saying, things are either good, bad, or indifferent, we may class the two first under one *positive* head, and then we should say, that things are either “differentia” or “indifferentia” (the positive term “differentia” denoting good *plus* bad). In like manner, we can on any occasion obtain a simple twofold division (*gemina divisio*), if we care, provided only we have names for the species and the differences.

(4) Correlative opposition (*secundum relationem or secundum ad aliquid*)—father—son, master—servant, &c. The terms here are inseparable, and so this form of opposition does not give us a mode of division, and accordingly must be rejected.*

The question is next raised, Whether genera ought, properly, to be divided into species or into differences? and the answer is given, Into species. But this sometimes cannot be done, owing to the fact that many species have no appropriate names ; and, when this difficulty confronts us, we must be content with dividing according to differences : but let it always be understood that the genus must be divided into its own differences, and not into those that are posterior (*non in posterioris*) or further down the scale.

It is next observed that, after Division, it is necessary to add Definitions or Examples,—these last to take the

* This classification of Opposites is taken from the “Post-Prædicamenta,” or conclusion of the *Categoriae*, of Aristotle. For criticism, see Grote’s *Aristotle*, pp. 104, 105.

place of definitions when definitions are not abundant.* One rule also holds in all division,—*viz.*, that it must be complete, neither including too much nor too little : “oportet autem divisionem quoque, sicut terminum, neque diminutam esse, neque superfluum”. And so, division will be multiplex,—as when we divide triangles into right angled, acute angled and obtuse angled : and, since species are marked off by differences, and all difference consists *in differentium pluritate*, the species of a genus can never be fewer than two. This sort of division is valuable for purposes of definition. But it is to be observed that, as all things are either superior, inferior, or intermediate (*mediæ*), of superior and inferior genera there is no definition, because in the one case there is no genus above and in the other case there are only individuals to deal with and so no specific differences ; and thus intermediate things alone can be defined. The defining process is as follows :—To define a species, take the genus and divide it into its differences ; then add the difference to the genus and see if the compound be equal to the species to be defined. If so, the definition is adequate ; if not, you proceed to operate upon the inadequate definition in the same way as you did upon the original genus. You divide it into its differences ; and then try if, by adding the relevant differences, you obtain the thing required. If not, you must go on dividing and dividing until, by the addition or accumulation of *differentiæ*, the desiderated result is obtained. Thus :—To define *nomen*, you take first the genus *vox*, and divide it into its *differentiæ vox significativa* and *vox non significativa*. You then say that “*nomen*” is a “*vox significativa*”. But instantly you find that this is not sufficient ; for there are some *significantæ voces* that are not *nomina*,—such as those that designate pain (*dolor*), or those that naturally express mental passions, *viz.*, interjections. You therefore proceed to operate upon the definition “*vox significativa*,” and you find that some

* This regard for the concrete characterizes Boëthius. His writings abound in concrete examples where Aristotle would have used abstract symbols, A, B, &c.

"voces" are significant "secundum positionem hominum," while others are so "naturaliter". As the latter have nothing to do with *nomen*, you restrict yourself to the former. You then try if these two differentiæ, "significativa" and "secundum positionem hominum," joined to the genus "vox," give you the thing required. Is it sufficient to say, "nomen est vox significativa secundum placitum"? No; for there are *voces* that agree in these two characteristics which nevertheless are not *nomina*. You then distribute the differentia "quæ est secundum positionem," and find that it is either "cum tempore" or "sine tempore"; and, as the latter alone is relevant, you add the third differentia "sine tempore" to the definition. But even yet you are not satisfied. For you perceive that "oratio" (ut, Socrates cum Platone et discipulis) has all these three marks, and yet *oratio* is not identical with *nomen*. You proceed, therefore, a step farther and add still another differentia. For, of "voces" conforming to the whole of the foregoing definition, some are characterized by this—that they signify something beyond (extra); others have no such signification. The former belongs to "oratio," the latter alone to "nomen". And so you get as the full and final definition:—"Nomen est vox significativa secundum placitum sine tempore, cujus nulla pars extra significat separata".*

Now, this is to be observed, with reference to the relation between Division and Definition:—That, in the former, the genus is the whole; in the latter, it is only a part. Again, the parts of a definition in union form a kind of whole, while division resolves a whole into its parts. Once more, the division of a genus is like the partition of a whole; but definition is like the composition of a whole (totius compositio).

2. Division of a whole into its parts. Different kinds of whole:—(a) continuous (body, line), (b) collective (flock, people, army), (c) the universal (man, horse), (d) that which

* Compare with Aristotle's definition of *ὄνομα* in the *De Interpretatione*—*ὄνομα ἐστὶ φωνὴ ἄνευ χρόνου σημαντική*.

consists of several potencies or powers (*totum quod ex quibusdam virtutibus constat*),—as soul, which consists of the various *potentiæ* of thought (*sapiendi*), sensation (*sentiendi*), growth (*vegetandi*); for these *potentiæ* are parts, not species. Now, of each of these kinds it holds :—(a) that you may divide the whole into its parts, or (β) you may separate it into form and matter (*totius divisio in materiam atque formam*).

3. Division of a word into its significations. Of three kinds :—(a) Division of an equivocal or ambiguous word into its various meanings (as the word “dog”), (b) division of an ambiguous sentence (*oratio*),—as when I say, “*Græcos vicisse Trojanos*,”—*the Greeks the Trojans conquered*, (c) “*alio modo secundum modum*” or “*secundum determinationem*”; *i.e.*, when the same word signifies the same thing, but *in many modes*,—as the word “infinite” (“that of which the limit cannot be discovered”), which may be—(a) “*secundum mensuram*,” as “the world is infinite” (in space) = *magnitudo*, (β) “*secundum multitudinem*,” as “the infinite division of bodies,” (γ) “*secundum speciem*,” as “infinite figures,” (δ) “*secundum tempus*,” as “the world is infinite” (in time). So, “God is infinite”.

Now, of this third kind of Division, observe :—that whatsoever is ambiguous creates doubt (*dubitabile*),—hence the necessity of properly restricting or determining the meaning; but it is not equally true, that whatsoever is creative of doubt is also ambiguous. That only is ambiguous which may reasonably (*rationabiliter*) be understood in more ways than one,—as, “*Audio Græcos vicisse Trojanos*.”—Then follow certain discriminations of ambiguity in words and sentences (*e.g.*, owing to accent, as *pone*, *ponè*; or to orthography, as *queror* and *quæror*); but these have a grammatical, not a logical, interest. We may, therefore, pass them by.

One thing, however, is to be noted,—*viz.*, that whereas in the other forms of Division (particularly of the genus) the *whole* of the parts or species must be enumerated, less than the whole is sufficient here,—according to the object in view.

4. Division *per accidens*. Rule:—Separate into opposites ; for, it is only thus that you can secure that the division shall be adequate—neither adding nor omitting. Thus, in dividing a subject into its accidents, we do not say of bodies that some are white, and others sweet,—for these are not opposites ; but some are white, others black, and others neutral (neutra).

Then follows the reference to the Peripatetics, which I have already alluded to.

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